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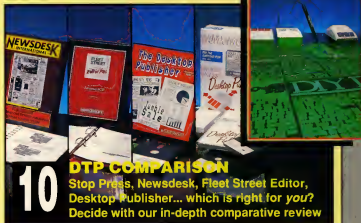
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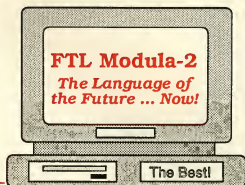
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# THE SHOW GOES ON

The average PCW user is very different from the average home micro owner. He or she (and more PCWs are owned by women than any other computer) could be anything from 14 to 85, from an ironworks manager to a Mills & Boon writer. All very different, but generally an intelligent lot despite their protestations of being beginners at this computing game, and all willing to invest time and money in something which will be of genuine use. Buying the PCW was a leap into the dark for most of us, and the fact that second-hand PCWs can't be had for love nor money shows that most people have taken to it pretty well. An ideal market, you might think, for software houses to exploit: willing to try something new, wanting to automate tasks where possible, and not afraid to spend money.

If you spent last bank holiday weekend doing something other than visiting the PCW show at Alexandra Palace, you'll be wondering what you missed. Well, if you're a reasonably regular 8000 Plus reader, not much in the way of sensational new products. The only thing on show that qualified for the description 'new' were Locomotive's new LocoScript printer styles (reviewed here last month). Large software houses don't release much new stuff for the PCW because they say the market isn't there.

Rubbish! Recently Database's Mini Office and Stop Press by AMS have proved that a good product, well targeted, well advertised and sensibly priced, can succeed in the supposedly sluggish PCW marketplace. There are still gaps to be exploited, subtle yet obvious. People like packages; the reason the PCW is so attractive is because the keyboard, monitor, printer and word processing software all come bundled together. So how about some

comprehensive, all-in software packages in various areas of interest?

There's no software for authors and writers; nothing for musicians; not much in the way of educational software; still virtually nothing in the leisure line outside adventures and arcade games; and no package for budding programmers. How about an all-in-one pack of software plus clear from-zero tutorial manual in assembler or C? At least, given that, many PCW owners could write and release software for the market gaps themselves.

*Rob Atkinson*

## 8000 PLUS

### You never know till you try it

Fans of our BASIC listings will notice we've changed the format a little from this month to make those type-ins, especially the longer and denser ones, a little easier to read. This was partly prompted by a letter the editorial team received from a recent purchaser of a 9512 and enthusiastic convert to 8000 Plus. Although she was generally pleased with the layout and design of the magazine, she did complain that the listings were set in such small type they were impossible to follow. 'It's obvious your art team have never tried typing in those minuscule listings themselves!' she said. 'Please redesign the pages so that they're actually legible'. Well, we hope they're a bit easier on the eye now. So who was the author of the letter? It was the person originally responsible for those very pages — our Art Editor

Kim Bait

### Computers are only human

In our hardware survey 'Fringe Benefits' last month we got into a bit of a mixup with the name 'Margin Maker'. We managed to put it against the wrong product in one of the photos, and to make things worse left it out of the paragraph which described the genuine product. Just to put the record straight, MM3 is the name of a cut sheet locator and feeder for 8000 printers made by Margin Maker, which is the applied for trade mark of the

makers of MM3. Margin Maker fans can see the real picture in their advert. Sorry for any confusion!

Amendment number two is to the telephone number we printed in 'News' last month for CBS services who supply the JUMBO help disc. It seems British Telecom have now decided to change it again, so enquiries should be directed to 0736 50488.

The red-hot August issue of 8000 Plus will be in the shops on 28 July. Don't miss out while you're on holiday — reserve your copy now!

### Graphics competition

The response to our Spot-the-difference competition was enormous. According to our beagle-eyed judges, the four differences were in the ear and belt loops of the man on the left, and in the pen (in the chest pocket) and direction of the stripes on his tie of the man on the right.

The five winners of the first prize, a MasterScan plus MasterPaint each, are: Philip Weston, London; S Musgrove, Marlborough; John Morris, Edinburgh; Christine Irwin,

London; and O Bains, London.

The five second prize winners, who each receive a MasterPaint, are: A Meldrum, Kent; T Tokarski, Middlesex; P Bulley, Eastbourne; Simon Freethy, Pinner; A White, Pontyclun; J Ryeland, Brentwood; Jon Trevor, London; Gary Perry, Yeovil; M Tyner, Twickenham; and C Lewis, Milford Haven.

Congratulations — your prizes



are even as we speak hurting your way. Thanks again to Database for helping organise the competition.

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## Make Music

Want to make music with your PCW? The Amstrad show saw the long-awaited advent of the Miditrack Music System from Electro Music Research Ltd. But Mike Beecher of EMR says that you don't necessarily have to be capable of producing astonishing musical virtuoso performances on various instruments simultaneously, or be particularly computer fluent in order to enjoy the benefits of Miditrack. What you do need is a Midi instrument, like a portable keyboard or synthesizer, your PCW and a Midi interface with which to link them together. As you gradually expand the set-up, you can carry out each stage of musical production (like composing, editing and recording) at home (You could always get the spare room sound-proofed). It's just like musical word

processing; you can edit individual notes and insert or omit whole bars if need be. If this is all starting to sound a little daunting, especially if you're as yet unacquainted with Midi, EMR have produced a booklet (*Midis, Micros and Music*) to help you grasp the program's basics. That costs £1.00 but is refundable when you purchase the PCW Miditrack Pro-Performer, the system's main program.

The software costs £59.95 whilst the interface price is £89.90 (both prices inclusive of VAT.) All the accessories that you're likely to need for the system, like cables, footswitches etc. (but not baseball caps or soundproofing materials) are also available from Electro Music. For further details, contact EMR Ltd 0702 335747.

## Son of Doom Rides Again and Meets Godzilla III - The Sequel

As everyone knows the planet Doomawangara (Doom to its friends) is a dangerous place. And yet Topologika are hoping a large number of PCW users will visit it. At least they will be able to do this courtesy of the company's follow up to Countdown to Doom and the predecessor to an, as yet, unnamed third part to the trilogy (what would happen if any of these things ever had four parts?)

Topologika's market research suggests that 'true adventurers' are looking for quality text-only adventures, which is lucky because graphics seem to be decidedly absent from the game. On the other hand it does claim lots of original 'Killworth' puzzles, alternative universes and weird weather. What more could you want for £12.95. For details phone 0733 752061.



## Writers wanted

However good a manual is, everyone thinks they could do better themselves. Well, if you thought that about the LocoScript manuals, or about any of Locomotive's documentation, here's your chance. The producers of LocoScript are looking for a

technical writer and the salary for the right person could be well into the teens. Before you start on your CV though, Locomotive's Howard Fisher says, make sure you have considerable experience in writing technical documentation (why am I still writing this?). Opportunity could be knocking on 0306 740606.

# NEWS

## Que veut dire 'bug' en Francais?

Francophones will be pleased to hear of another package available in the language of romance and good cooking. Database Software and Power Product France are releasing French versions of their most popular software, Mini Office and the Desktop Publisher. Rather than translating from the existing manuals, they have been rewritten from scratch. (Probably not a bad idea in the case of the Mini Office manual). A joint Anglo-French venture, the translation of the software was undertaken at the Power Products France HQ, in Compiègne, by native French speakers. 'Database' comes out in true Académie Française style as 'base de données' while 'comms' is more prosaically 'le comms'. In addition, the text editor within DTP-PAO (the French version of The Desk Top Publisher) uses the same commands as LocoScript, and even these have been completely gallicized so that the underlining facility, for example, is activated by pressing the [+]

in conjunction with the [S] and [L] keys (for 'sousligner'). Presumably if you try to enter an English code it will crash in disgust. Details from Database on 0625 878888.



## New ideas for BrainStorm

A new, improved version of BrainStorm, the PCW ideas processor has been launched at £29.95. This is a program that tries to help you develop ideas in a natural and systematic way. It is aimed at writers and programmers allowing them to take random ideas and put them in order.

The changes have been brought about after Caxton, the software distributors, backed out of the PCW market leaving the program without a distributor.

The rights were re-acquired by the authors who are now selling it through Brainstorm Software Ltd of Middlesex (0895 677845) at £20 less than the original price. Improvements include a much

needed change of key use and the manual has been rewritten. All documentation now comes on disc, in both LocoScript and ASCII text formats. There are tutorial and reference sections held in separate files so experienced users don't need to print out the entire manual to get the basic information.

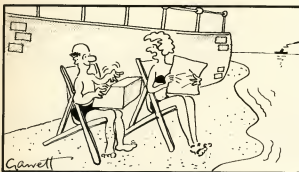
The program also has a new customisation program which allows users to adjust print, paper, screen characteristics and keyboard. Apart from the new key use and the customisation program the program operates exactly as before. Existing users can upgrade for £9.99 if they return their original disc.

## Portable PCWing?

One little-publicised event at the recent Amstrad show was the appearance of a portable PCW, just the size and weight of a briefcase. Tentatively called the Odessa, it has one or two disc drives (no printer, of course), a four-inch monitor with the full, if a little reduced, 90x32 PCW screen, and takes the standard three inch discs, running LocoScript and CP/M as normal. It runs for four hours from its internal rechargeable batteries and beeps when you try

to close it while switched on to ensure maximum battery life. The cost would be somewhere around the five to six hundred pound mark.

Sounds too good to be true? Well, it's still very much a prototype, and as the man behind it – David Rathbone, formerly of Nabli – explained, the costs for setting up mass production are huge. Isenstein, as the company producing the Odessa will be called, hope to start production later this year.



*'SOMETIMES I WISH THEYD NEVER COME UP WITH THE PORTABLE PCW...'*

## Look after the pennies

Three new packages, recently featured on Radio 4's 'Money Box' programme and all dealing with home finances, have been launched on the PCW by a new software firm Vital Software. The company, who reckon that the software available in this field "simply isn't relevant" or "pretty indigestible" reckon that their Income Processor, Savings Processor and Insurance Processor are the kind of "simple relevant software packages which any PCW user will be able to understand and apply directly to their needs."

All three are written by systems analyst Stephen Walmsley who has aimed at reducing input as much as possible so that, it is claimed,

the programs do not need a long, complex manual.

The Income Processor offers a 'profit and loss account' for family and personal finances. Income and expenditure are divided into categories or 'accounts' chosen by the user. This gives you a full breakdown on your income and expenditure and how it changes over a period of time. At a press of a button you will be able to see exactly how you stand financially.

The Savings Processor is a balance sheet, again for family or personal finances. It allows you to record full details of all assets and liabilities, including cash balances, possessions, life assurance policies and stocks and shares. Set against these are mortgages,

loans, HP and leasing liabilities.

The Insurance Processor is used to create an inventory of all items insured under all insurance policies with premium rates and dates on which premiums are due. You can list them room by room and classify them according to the headings you choose. This also acts as a schedule of fixed assets.

One advantage claimed is that the programs can operate independently or they can fit in with other packages in the range. The packages are designed to work in a similar style. Each costs £29.90 from Vital Software (01 494 3041).

Two more programs are being prepared at present – one on tax computations and the other on long term financial planning.

## Brickbat time

It seems quite a few 8000 Plus readers have been having trouble with the Mira Group, who advertise club membership and PD software facilities for very reasonable rates from an address in Dewsbury. Quite a few people have heard nothing from them despite having their cheques cashed two months ago, and can only get through to an

answerphone on Mira's quoted number, 0924 462670 – which is all that happened to our repeated calls.

This doesn't appear to be a swindle, just sloth – Mira have almost certainly set up in good faith and have found the time they can devote to their hobby much less than they thought – but if you do send any money off, it looks like you'll have to be prepared for a long wait.

## Carry on Adding

Kador have taken over sales of MEAC Designs very popular Amstrad accessories following the death of MEAC's owner earlier this year. A Mr Young, of Kador, says this hasn't involved any price changes in the MEAC range of products, though the stock is limited. He added however that if the present demand continues, Kador may well begin manufacturing the add-ons themselves as MEAC Designs are currently winding down. Kador have also changed their premises and can now be located on 0443 740281.

## Better even than a PCW printer

Help is on hand for anyone not content with the output from their PCW dot matrix or daisywheel printers and yet unwilling to pay high commercial prices for laser printing (claimed by the group to be as high as £5 a page). It's claimed that these pernickety customers can save thousands of pounds by joining the club.

The AmScript User/Publisher Group (who thinks up these snappy names?) is offering prices as low as £1 for an A4 page according to their laser printed press release.

Originally intended for publishers and authors the group is now offering to produce business-cards, letter-heads, brochures, reports, newsletters, theses, transparencies, contracts, terms of business, forms and anything else they can think of.

Although not exclusively for LocoScript users, the group is geared up to cater with the output of the PCW's own word-processor (both versions). Annual membership is £12 (including a laser printed newsletter) and it is claimed no service or product costs more than £3. They even claim to help budding authors publish their work. That sounds like a full time job by itself.

For full details send a SAE to The AmScript User/Publisher Group, 68 Barcombe Road, Brighton, East Sussex, BN1 9LR or phone 0273 606067.

## DIY DTP

A new Do-It-Yourself publishing centre, Graphic Point, has been opened in Birmingham to allow computer owners to make use of the latest desk top publishing technology. This is believed to be the first time this kind of service has been seen in Britain although it is already popular in the USA.

Computer owners will be able to take their disc into the 2000 sq



▲ The DIY DTPers hard at work.

ft centre and gain direct access to DTP systems, laser printers, typesetters and scanners. A full design and print service is also available.

Although not available at the moment it is planned soon to have facilities for PCW owners to input text from their own three inch discs. For details phone 021 233 2905.

# Joined up writing on a PCW8256?

## Yes, use LocoFont!

For just £19.95, LocoFont gives you ten distinctive typestyles on the PCW's built-in matrix printer.

With LocoFont you can select a typestyle to fit the mood of your writing. Use the Script font to thank Auntie for the socks at Christmas, the Roman font for professional business letters, the Copper Plate font for stylish invitations – or cut a dash with Deco.

To select a typestyle, simply pick the font you require from one simple LocoScript menu.

Ofcourse, coming from Locomotive Software, all ten styles include all of LocoScript 2's characters and accents. You'll even get better looking text in 15 and 17 pitch – the new fonts have twice the resolution of the old!

### Character Set

Standard  
Sans serif  
Modern  
Finesse  
Definite  
✓ Script  
Deco  
Copper Plate  
Capital  
Roman

For printer  
MATRIX

## LocoScript 2 – New Edition!

If you haven't already, now's the time to move up to LocoScript 2 – the better word processor for the PCW.

Not only have we released LocoFont (which only works with LocoScript 2), but LocoScript 2 itself now comes with two high quality typestyles. And if you want to use a different printer, we now support over 250 matrix, daisywheel and laser printers – but for some, you may need the Printer Drivers Disc.

The new edition of LocoScript 2 costs £24.95. Buy LocoScript 2 together with our spelling checker LocoSpell for £34.90 saving £10 on the combined price. To complete the family, add LocoMail for £29.95.

*Note: A free upgrade of LocoSpell or LocoMail to work with LocoScript 2 is available. For details of the upgrade, or of any Locomotive products phone (0306) 740606 – 24 hours.*



# LOCOMOTIVE SOFTWARE

Dear Auntie Mary

Thank you for the wonderful socks you sent Christmas. They fitted perfectly, and were right colour to go with my new suit.

I hope that you and Uncle Tom had as enjoyable Christmas as I did. I expect the rather warmer in Spain than it was back

Yours

### LOCOMOTIVE'S

Saturday 12th August

Egg Mayennaise

Deep Fried Brile with Garlic

--S--

Peulet Résti

Beef Streganoff

Vegetarian Lauagne

served with a selection of vegetables  
or a green salad

--S--

Cold Asparagus from the trolley

The Manager  
Blue Widgits Ltd  
St Albans

29th June 86

Dear Sir

I should be grateful if you could details of your full range of widgit particularly need a side mounting (drilled with three fixing holes).

In addition to details of the would like to receive details of the hold as a matter of course. If the suitable, I expect to be placing a order on a regular basis.

Dave and Hilary Webster

invite

Steve and Mary

to their grand  
housewarming party

at 24 Lodge Lane, Rainsford, Herts  
on Saturday 15th December  
from 7.30 pm

To: Katy Buchan, Locomotive Software  
Allen Court, Dorking, Surrey, RH4 1YL  
Phone (0306) 740606

Name \_\_\_\_\_

Address \_\_\_\_\_

Postcode \_\_\_\_\_

### Please send me the following products

- |  |        |
|--|--------|
| <input type="checkbox"/> LocoScript 2 (New Edition) with LocoSpell     | £34.90 |
| <input type="checkbox"/> LocoSpell (requires LocoScript 2.03 or later) | £19.95 |
| <input type="checkbox"/> LocoMail                                      | £29.95 |
| <input type="checkbox"/> LocoScript 2 (New Edition)                    | £24.95 |
| <input type="checkbox"/> LocoFont (requires LocoScript 2.12 or later)  | £19.95 |
| <input type="checkbox"/> Printer Drivers Disc (specify 8256/8512/9512) | £14.95 |
| Total _____  |        |

- ☐ I enclose a cheque payable to  
Locomotive Software Limited
- ☐ Charge to my Access Card

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*Note: All prices include VAT and UK postage.*

# EAT YOUR HEART OUT

Alec Rae dons his green eye shade and starts the presses rolling on the four DTP packages

When the PCW first appeared desktop publishing was a romantic dream. Columns of text, headlines, even graphics and digitised photographs – page makeup handled entirely onscreen on your PCW! Now prospective DIY editors are almost spoilt for choice with four major packages on sale. But which one suits your needs?

In theory a DTP, or desktop publishing, program should be as flexible as, say, a word processor. Just as you can write a note to your aunt or a 100,000 word novel in LocoScript you may want to produce anything from a small labelled diagram to a publication the size of the Sunday Times. But in DTP there are definitely horses for courses. Some programs are more suited to certain applications to others simply because of the way they tackle the question of making up a page.

Some programs put the emphasis on graphics and design while others seem to regard the handling of text more important. Which one you choose depends largely on what application you have for the package.

## To a mouse

All the desk top publishing packages claim to work either with or without a mouse, the little long-tailed gizmo to allow you to move the cursor about the screen more easily. Don't believe them. If you are going to do any amount of page make-up you will either need a mouse or the patience of Job.

Check below what mice are compatible with the package of your choice. If you already have a certain type of mouse this might make a difference to your choice of package. And if you don't have a mouse, take into account that you will probably need to cough up the extra £30 or so for one.

## STOP PRESS

£49.99 (£79.99 with mouse)

● AMX (0925 413501) ● 8000s only

Although Stop Press falls definitely into the graphics biased category of DTP programs it is still the best all round buy. For those with an artistic bent it will provide you with what is the best graphics package available for the PCW but it also has quite sophisticated page design features not seen in its competitors.

It is more limited on the text side, as the only one that does not have a text editor but the way it gets round this is clever and would suit most PCW owners.

## Design

Stop Press is one of those programs that allows you to build up the page as you go along – probably the most user-friendly method for anyone not trained in page design.

One innovation by the designers is the full screen pull down menu chart. Press a couple of buttons and the screen is filled with a chart of icons representing virtually all the program's operations. Click on the correct icon and away you go. When you get to know the package a bit this stage can be cut out by typing in the grid reference (for example 'erase' is 1.3) and going straight to the section you want.

This means that apart from text entry mode you have the full screen to work on (it's not cluttered up with icons and menus). At any time you can quickly call up a reduced version of the page to allow you to see the complete layout.

Some of the icons are a bit obscure (not every operation can easily be represented by a suitable symbol) but a bit of trial and error will usually allow you to work things out without constantly consulting the manual.

You can work with or without fixed size columns (up to seven columns) or even pick variable column sizes to suit.



# UT, RUPERT MURDOCH

## DTP programs

### Text

If there is a criticism of Stop Press it would be that it doesn't have an in-built text editor, although it does have sophisticated text features that some of the others don't.

The idea is that you prepare your text in LocoScript 1 or 2, put in all your bolds and italics at that point and the program converts the file to suit. It is true that you always do find a mistake, in a prominent position, as soon as you get the text on the page but you can still change individual words on screen as long as you are careful not to change the length of it.

One big plus is that when you are loading text into various boxes (you can define the boxes in advance to keep the text to the area you specify) you can stop, move to the next box and start again at the correct point in the text.

However the most sophisticated feature must be the Autoflow – the ability to wrap text round an illustration or into oddly shaped boxes, giving some very sophisticated effects.

### Headlines

There are 10 headline fonts giving a good variety and there is an even wider variety of sizes you can use. There are 19 fixed sizes between 10 and 192 point but once you have chosen your size you can adjust the height and width of the font, the spaces between letters and the leading (the space between the lines) to allow you to squeeze a headline into an exact space.

Being designed on a full 32 by 32 grid the fonts convert well into the bigger sizes with few of the jagged edges obvious in other programs. However you can get strange effects if you distort a font too far.

You can even define your own font or, more practically, modify one of the existing fonts to suit your tastes.

### Graphics

Not only is this the best graphics package available in a DTP package it is probably the best graphics package available on the PCW and there are some people who would find this alone worth the £50 investment.

The choice of facilities is vast and it would take a lot of experimentation to discover the full range of effects that are possible. The process of ghosting (superimposing one image on another) can give hours of innocent fun and there is a wide range of free-hand drawing, painting and spraying tools.

There is a good range of fill patterns and you can create your own 'fills' which also doubles as a simple 'symbol' definer.

The zoom (the ability to blow up a part of the screen and switch individual pixels on and off) works well. It shows both the magnified area and the original graphic at the same time, allowing you to see the effects your changes are making and you can easily reposition the box around the screen.

As everything on the page is handled as a piece of graphics (others make distinctions between graphics and text boxes) you can use graphics effects on text and headlines. You can move text around the screen and position it accurately – a great way of getting round any shortcomings in the text editing side.

There is a selection of clip art with frames, cartoon figures, useful symbols and a few reasonable line-drawings.

### Other features

Recognising that there are many uses for a DTP package beyond making up pages, Stop Press has a neat graph drawing section with bar graphs or pie charts. One of the easier and quicker ways of getting simple graphs on to paper.

### Add ons

Stop Press works with either the AMX or the Kempston mouse and it can take pictures from the Masterscan scanner. It will also take images direct from the Rombo digitiser.



### Professional note

If you're really serious about DTP you might think about investing a few thousand pounds in an Apple Macintosh plus a laser printer. You can still use your PCW for text preparation and then do the page makeup on the Mac. This, and all the other pages in 8000 Plus, are produced this way.





## Headline note

If you want nice smooth headlines instead of the rather jagged ones DTP packages give you, good old low-tech Letraset, the rub-down lettering available from any stationers, is still a good bet.

## DESK TOP PUBLISHER

£29.95 • Database Software Ltd  
(0625 878888) • 8000s only

This is the cheapest program available and probably the easiest to get to grips with – although this is partly because it carries fewer features than the others. It is definitely more in the 'text orientated' school of programs with its own text editor.

It does instill an organised attitude to page layout which is probably no bad thing for someone not used to page design. It would be suitable for an occasional user and for simple repetitive use especially for 'texty' pages although it may seem limiting to anyone interested in imaginative or creative design.

## Design

By its very nature Desk Top gets you organised. The first operation is to design a page from scratch and then fit the elements to the space available. This takes a bit of practice but, in the long run can help to create consistently organised pages.

Only then do you start creating headlines, illustrations and columns of text each in their own sections. So, for instance, you can cut or expand the text in the text editor to fit its box or scale a picture to suit.

While you are in the page design section you can 'preview' your page – a rather slow process of printing a cut down version to the screen. This is worthwhile however as it shows up if any of the elements is too big for its box. If, for example, there is too much text for a box, it will try and print it all even if it means overwriting graphics or headings.

## Graphics

Desk Top works by setting limits on what you do. Once you have set up the size of your graphics window in page design you move to the graphics section and call up the window. The space you have available is shown on screen and you have to fit the illustration into it – a bit like a Krypton factor test.

You can introduce illustrations from clip art, a scanner or a digitiser and then scale them to fit although this can cause distortions if you don't get it right.

Although more than adequate to modify important graphics or for diagrams (using the shape drawing utilities) it

## Text

Desk Top Publisher tests your ability as a sub-editor far more than your ability as a page designer. Again you are given the space and you have to produce the text to fill it. This can be done directly at the keyboard, although it is not as good a word processor as, say, LocoScript, so to produce a whole publication like this would be a tiring business.

You can import the text from an ASCII file (as you can produce in LocoScript for instance) but again you have to plan ahead and have a reasonable idea of how much space your words will take. You cannot use one long file to fill several boxes so you really have to carefully create several files with slightly more text than you need and then edit them down to fit.

When the text is too big for the space you get a 'Window Extended' message. You cut the text until this disappears and then you are at the right length. This you will only learn with experience.

One advantage is that you have WYSIWYG (the famous 'What You See Is What You Get') in the text editor. In practical terms if you set a word to be bold or italics it will appear as bold or italics on the screen.

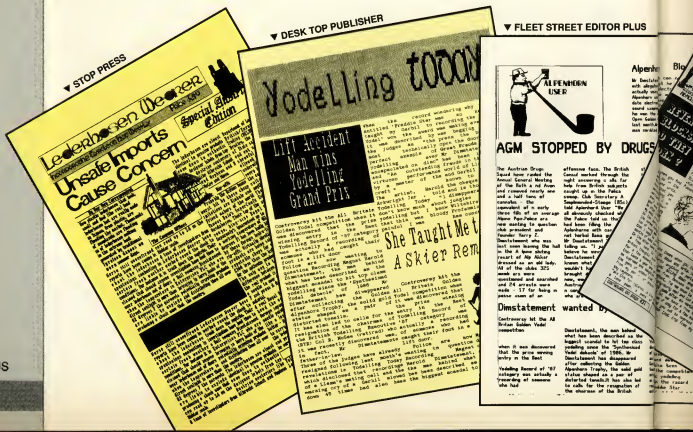
might be ambitious to try to create an illustration from scratch in the graphics section. It has all the elements you would normally expect from a drawing package but in practice they don't work with the fluidity you would really want for free hand drawing.

The screen is set out with all the icons framing the actual drawing area, which is handy but does cut down the working space. There are 16 fill patterns available although the actual operation of fill is slightly erratic.

The zoom facility (cryptically called Magnify) does show the both the magnified area and the changes although as the area chosen isn't marked on the illustration it is possible to lose yourself on the screen. Each pixel has to be set or unset individually – a slow process.

## Headlines

Headlines in Desk Top provide an almost infinite variety in size, although this brings its own problems. To type in a



headline you create a box on screen, which you reckon to be the size of each letter you want. If any task needs a exact eye this does, as you very quickly find it too big or too small for the text or line breaks coming at totally inappropriate places. You then have to have a good memory to adjust the box size next time you try. There also seems to be no opportunity to adjust the spaces between letters or words, short of actually cutting and pasting.

Perhaps because the fonts are designed on the smaller 16x16 grid or because you are more than likely to be distorting them from their normal shape the fonts in the larger sizes are inclined to show a marked tendency to 'stepping' - the jagged edges that appear when you try to create a rounded edge. You have a font editor to create your own fonts. There are 15 fonts provided although they more on the practical side rather than imaginative.

## Add ons

The DTP can take all three popular mice (AMX, Kempston and Electric Studio) and the Masterscan scanner.

## NEWSDESK INTERNATIONAL

£25 (£50 with light pen)(£70 with mouse)

● The Electric Studio ● 8000s only

Despite the fact that Newsdesk was the first on the DTP market it has held up well against the opposition. It has a strong graphics base, being built round the popular Electric Studio art packages.

It also has its own in-built text editor and you have reasonably sophisticated facilities to load in text from a word-processor. It is based on the old Electric Studio pull-down menu system. This is fine for those who are used to it although it might take a while for a beginner to work out the logic.

## Design

Again this is a 'make it up as you go along' style of page design. You start with a completely blank screen and build it up like a jig-saw puzzle.

You can set text boxes to any size you want and these can be duplicated across the page. However there is no way

of regularly creating even sized columns to fill the page, other than working out the sizes and setting the lines according to the grid references.

Everything is chosen by a series of pull down menus which take a bit of getting used to. This does leave the full screen free to work on and you can call up a cut down version of the page to see how it is building up.



## Text

Although perhaps not competing with a regular word processor Newsdesk does have its own text editor, making it one of the most flexible packages.

Although you would perhaps find it tiring to type in a whole publication you can import text in ASCII from your word processor and then edit it to the right length or make those last minute corrections before putting it on the page.

The program also has the important facility of being able to stop in the middle of a file (when a box is filled) and start again - invaluable in multi-column pages. The only thing missing is a method of gauging accurately how much room your text will take up, so getting things exactly right is a bit of trial and error. Still it does allow you to do this - a feature some rivals don't provide. It is sometimes difficult to accurately place text in a box.

## STOP PRESS

### PLUSES

Excellent graphics package  
Great design potential

### MINUSES

■ No text editor

RANGE OF FEATURES ■■■■■  
EASE OF USE ■■■■■

PERFORMANCE ■■■■■  
DOCUMENTATION ■■■■■

8000 PLUS VALUE VERDICT ■■■■■

## DESKTOP PUBLISHER

### PLUSES

Good WYSIWIG text editor  
Organised method of design

### MINUSES

■ Cumbersome in use  
■ Spreading text over several columns difficult

RANGE OF FEATURES ■■■■■  
EASE OF USE ■■■■■

PERFORMANCE ■■■■■  
DOCUMENTATION ■■■■■

8000 PLUS VALUE VERDICT ■■■■■

## NEWSDESK INTERNATIONAL

### PLUSES

Text editor  
Can split text over several columns  
Full graphics package

### MINUSES

■ Menu system confusing

RANGE OF FEATURES ■■■■■  
EASE OF USE ■■■■■

PERFORMANCE ■■■■■  
DOCUMENTATION ■■■■■

8000 PLUS VALUE VERDICT ■■■■■

## FLEET STREET EDITOR

### PLUSES

Multi page design  
Well suited to producing a large number of pages with the least trouble  
Good text handling

### MINUSES

■ Limited in design facilities  
■ Graphics package inadequate

RANGE OF FEATURES ■■■■■  
EASE OF USE ■■■■■

PERFORMANCE ■■■■■  
DOCUMENTATION ■■■■■

8000 PLUS VALUE VERDICT ■■■■■



## Digitiser note

One way of including pictures in your publications is to use a digitiser. This is a device which takes pictures from a video camera and brings them into a dot pattern which can be included in your DTP pages as a normal graphic. Rombos and the Electric Studio both produce digitisers – see this issue's Good Software Guide, Graphics section.

## Graphics

Electric Studio are the old masters of PCW graphics and anyone who has used one of their light pen or mouse driven packages will be totally at home. The graphics section is the same as you would get if you bought a drawing package so it has everything you need. There are a wide range of tools – brush, pen nib and spray sizes and you can create some quite interesting effects using the ink modes and colours. This is the only program that works with a light pen – a method many people may find more natural than free-hand drawing with a mouse. However it has to be admitted that it does not give the same control as a mouse and especially in freehand drawing this can cause problems.

The zoom facility is one where the magnified screen doesn't allow you to see how your changes affect your drawing and is not so solid as some of the later packages so it takes a bit of patience getting things just right.

Electric Studio have a disc of clip art available for their art packages although they are mostly cartoon type images.

## Headlines

At first the method of producing headlines might seem limiting but in practice it works quite well. Basically there are only seven font styles (all reasonably sensible including the old faithful Old English) and only three type sizes (the biggest 36 point).

Whether you find the range limiting depends on taste although in practice you might not need many more. If you were really keen you could create your own in the font editor.

The problem of getting the right type size is got round quite ingeniously by typing in headings and then expanding them, like a piece of graphics to fit the space exactly. As the fonts are designed on a 32 x 32 grid they should stand up to any distortion better than the smaller ones.

## Add ons

The system works with all the Electric Studio extras, the mouse, light-pen and digitiser.

## FLEET STREET EDITOR PLUS

£49.95 • Mirrorsoft Ltd (01 377 4645)

### • 8000s only

Probably the most ambitious of the group, Fleet Street Editor Plus has, at least, tried to provide many of the features that you would expect from a serious professional page maker would provide.

Admittedly it is quite limited on the graphics front but the text handling facilities are unequalled. Not only does it have a text editor it even has a word count.

Because of the very complexity of the program the early versions did have some bugs which resulted in the program crashing rather regularly although, later versions have hopefully sorted this out. It is, by far, the most complicated program and takes a bit of effort to get to know. It is the most suitable for people who intend churning out a lot of pages with the least effort.

## Design

Fleet Street is the only multi-page system available, allowing you to create several pages in a publication (left and right handed) and allowing you to set default lay-outs to give you consistency throughout. However you can over-ride the lay-

out setting if you find it too limiting.

Again in Fleet Street you prepare the elements in separate sections and bring them together in the page design section although this time you don't need to plan in advance – they simply add the elements as you build up the page.

You can set up to seven columns for text (presuming that your text has nothing but very short words in it), set the length and spread text over as many columns or even pages as you want.

Throughout you have the choice of metric or imperial measures and the grids for lay-out are useful. Although there is a fair amount of flexibility at the design stage it is still not as simple to get exactly what you want in the way a 'graphics' based design works.

One particularly unusual quirk for mouse users is that you 'click' on to an item by using what is normally the Cancel button – needing a very frustrating period of retraining.

## Text

Certainly the most extensive text handling facilities, the text editor is as near to a proper word processor as any – including a word counter. It also allows you to import text either in ASCII form or using LocoScript files.

Once you have the text on disc you can add it to page in either 12, 18, 24 or 36 point (as with headlines). There is again a rather unusual use of the mouse when instead of clicking on an icon you place the cursor in the place you want the text to go and press one of the function keys.

If the text is too long for the text windows you can either move on to another column immediately or save it to go on another page. As you load the file on to a page it actually removes it from the menu so you can't put the same story in twice. If you find you have made a mistake you actually 'recover' the text from the box to make it available on disc again – a very useful facility.

## Graphics

There is no way that you could describe Fleet Street as having a full blown graphics facility. It has the most limited range of features although, to make up, there is a good range of clip art. It is more likely that you will use it to modify clip art or a digitised picture than attempt any freehand drawing. It has a full screen zoom facility and a rather unpleasant method of switching pixels on and off.

More important the program does have the ability to convert graphics from other PCW graphics packages – a much more sensible idea.

## Headlines

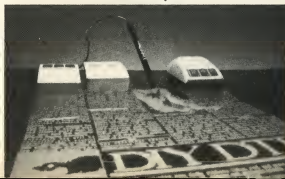
There are only five reasonable standard heading fonts although you can vary these by making them outline, bold or italic giving in the end a reasonable choice.

Headlines are entered from the keyboard in position – fine when you are sure of what you are doing but nowhere near as flexible as the graphics based programs.

## Add ons

The program can be used with a Kempston mouse and a Rombos digitiser.

EXIT





# GRAPHIC ARTISTRY

You can prove anything with statistics – and Mini Office's graphics module makes illustrating them easy

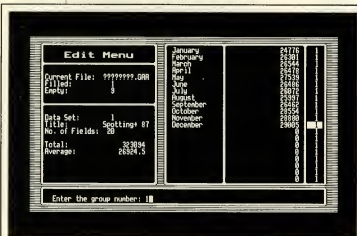
## Touch of a button

The quick way to select items from a Mini Office menu, instead of cursors and [ENTER], is to press [SHIFT] + . From now on letters show up by each item of each menu and you can then select the item just by pressing the letter, without return – just as for graphics, is for bar chart and so on.

Lies, damned lies, and statistics – but how much more convincing they all look if they're supported by illustrations. The graphics package will take data you type in at the keyboard and turn it into bar or pie charts or line graphs. You can label them, save them, print them out (not if you have a 9512 though) and edit your data to produce new charts later on.

Suppose you want to illustrate the success of your mythical magazine, *Train Spotting Plus*, over its arch rival, *Train Spotter*. A series of graphs (bar or line) illustrating the monthly sales figures for 1987 for each mag will make the point. Or you may want to illustrate your dominance of the market using a pie chart.

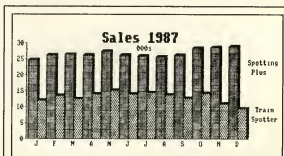
So, insert your Mini Office disc, type *office* then select 'graphics'. From the main menu choose 'Edit' then 'Edit'



▲ Defining a data set

## Spread it around

If you use the spreadsheet, you can save data from it in a form the graphics package can use. This process will be covered later in this series. Details aren't in the manual but appear in the READSPRD.ME document on side 4 – typing TYPE READSPRD.ME will put this document on screen.



▲ Printout of bar chart using two data sets and the 'side by side' option. The 'primary' data set, *Spotting Plus*, is displayed first and the 'secondary' set (*Train Spotter*) second for each month. In the 'stacked' option, the primary data set goes at the top of each bar.

from the next menu. You're entering new data, so press N for New and give a name for your data set – say *Spotting Plus*. Now you type in a 'field title' (eg. January) data (ie. the sales figure for that month) and a group number for each item (ie. each month for 1987). The group number only applies to pie charts, so we'll worry about that later; for now just press [ENTER] twice to make everything go in group 1.

When you've finished, press [EXIT] and your data is displayed. It's been called 'Data set 1', and the title, total and average is there for you. Now for the rival magazine's set of figures. Press N for New (note this has automatically been called 'set 2') and give the title and monthly figures as before. You'll have to type in the field titles exactly as you did before or Mini Office won't be able to match them up later on, when you want it to put both you and your rival's monthly figures side-by-side on the same graph. A quick way of doing this is to press [EXIT][EXIT] C after N. This will copy all the field titles to a new set, set 2, and you can then just enter the figures for each month and the group for each item. When the new set is done, [EXIT] twice to get back to the main graphics menu.

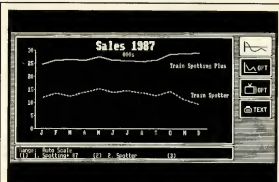
## Called to the bar

Now select 'Bar Chart' and when the bar chart screen shows up, press [ENTER] with the cursor on the bar chart icon. Data set 1 – *Train Spotting Plus*'s sales figures – are drawn to screen. Great eh? Now to explore some of the options, via the 'Options' icon. When you put the cursor on this and [ENTER] you see more icons which you can change with [ENTER].

The top icon lets you pick the data set. Data set 1 was used automatically for the first, but now you can switch to set 2, your rival's. With the cursor on DATA, press [ENTER] and give the number of data sets you want to use (ie. 1) followed by the number of the set (2) then [ENTER]. Then just [EXIT] and with the cursor on the bar chart icon and [ENTER] – your rival's chart appears.

Now for an effective comparison. As above, pick the data set, but ask for two data sets to use. Give 1 as the 'primary' and 2 as the 'secondary'. Now when you draw your chart you'll see the two sets of figures side by side for each month.

There are other options you can use. The 'lines' icon with 'ON' written on it lets you choose between having scale lines drawn across your chart or not. The ruler lets you have the scale made up automatically or choose it yourself. (Unfortunately you can't have scales between, say, 5000



▲ Line graph with two data sets

and 30000 – your minimum must be negative. Why do they do this to us?).

The bar chart icon near the bottom lets you choose modes for charts displaying more than one data set – either side by side or on top of each other. The second option stacks the figures; suppose *Train Spotting Plus* sold 30000 in January, its rival 10000. With this option you'd have a bar

40000 high for January, with the bottom 30000 shaded one colour and the top 10000 another. The bottom icon lets you select a 2D display or a 3D effect.

## My prints will come

Now to print the chart. The 'TV' icon takes you into another series of options. The top one, the printer icon, prints the currently displayed chart and you can choose sideways or normal printing with the bottom icon (if you look closely, you'll see the holes to show the orientation of the continuous paper). Sideways is rather bigger than normal (Cursor down to the bottom icon, press [ENTER] to change the setting, then cursor back up to the print icon and [ENTER] to print.)

The 'invert screen' option's function is obvious, and the other two icons cover saving and loading the currently displayed graph. To save the current graph, go to the arrow-to-disc icon and [ENTER], giving an appropriate name like BAR. 1. To retrieve the graph later on, get back here and select the disc-to-arrow icon, giving the right name. You'll have to get back to the main bar chart menu and [ENTER] on the bar icon to draw it to screen.

It would be good to label this graph, which is done via the 'Text' option. [ENTER] on this to bring the text options up. Their effects are pretty obvious. [ENTER]ing on 'Text' lets you write out the text you want. Then position a box anywhere on screen to place it, using the cursors. [SHIFT] with the cursors moves the box in bigger jumps and [ALT] with cursors moves it to the edge of the screen.

## What a save

Before you go any further, you should save the data you've defined. [EXIT] to the main menu and choose 'Load/Save' (note that the current graph is saved to memory and will reappear when you come back to it). 'Save all data' and give a suitable name when prompted. In future you can reload this data from 'Load/Save' - of course, you'll have to redraw it to screen.

Choosing 'Line graph' from the main menu gives you functions very similar to the bar chart drawer. Loading data sets, adding text, printing and saving screens etc. is the same, and the only difference is in the 'graph options' (the graph OPT icon). You can have a graph with points marked by a triangle ('on' in the third icon down) or not and, if displaying two sets of data on the same graph, you can have one solid and one dotted ('on' in the fourth icon).

The bottom icon gives you the chance to draw a cumulative graph. Instead of month-by-month sales, it will

# Mini Office PROFESSIONAL



show the total so far for each month; if January was 1000, February 2000, March 1500, then on the cumulative graph, January will be 1000, February 3000, March 4500, and so on. This is the icon with a line graph going up - normal is a fluctuating line. The third option, 'TOTALLED', will plot one graph, totalling the figures for each month from two or more data sets. Otherwise you'll get the different sets with separate lines superimposed.

EXIT

## Horses for courses

Continuous processes - eg. how house prices fluctuate with time - go best in line graphs, while discrete data - earnings of different socio-economic groups, perhaps - should go in bar charts. Pie charts are good for showing how something is shared out - sales figures in different regions, perhaps, or your share of the market vis-à-vis your rivals.

## Not a good mixer

You can't put a graph directly into a text document. To illustrate your word processed report you'll just have to leave space for the graph when you print your document and print the graph on to that sheet of paper later on - or put the graphs on separate sheets.

# The value of pie

Suppose you want to draw a pie chart to illustrate how the market is shared out between you and your competitors. First you'll have to create a new set of data. If the old data sets are still hanging around, take 'Edit' in the main menu and then choose 'Delete all data'. (This only deletes from the memory, not from the disc). Then take 'Edit' to get to the data entry screen and press it for New.

Enter the sales figures as before for you and each of your rivals. Now those 'group' numbers in the right hand column come into play. Let's say that there's yourself and five rival companies, conveniently called A, B, C, D and E. However, A and B are both subsidiaries of C. You can group A, B and C together when you draw the pie chart if you wish by putting them in the same group now - so, when prompted for 'group', put 1 for yourself, 2 for A, B and C, 3 for D and 4 for E.

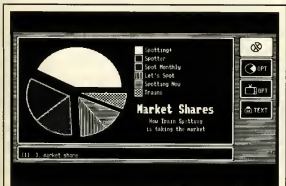
[EXIT] when finished to the main menu and take 'Pie chart'. The setup from here is similar to the bar and line graphs - the difference is again in the options. If you move to the 'options' icon and [ENTER] you can now select data sets as before. The 'AVE' icon lets you draw pie charts for your data set's

positive values only or negative values only (you can't represent both negative and positive values on the same pie chart). The bottom 'key' icon lets you have the key to the chart displayed or not.

The middle pie chart icon selects the way the pie is split up. By [ENTER]ing you cycle it through all slices together, all slices separated from each other, slices of your choice separated (you're asked for the ones to separate when you come to draw the pie) or the slices grouped according to the group numbers you defined in your data set.

Normally Mini Office fills the slices with patterns of its own choosing, but you can select your own. Change the fourth icon in the 'options', currently showing 'NORMAL', to 'SELECT'. When you draw your pie, as each slice is drawn, a selection of fill patterns appears at the foot of the screen. Move the cursor over the one you like best and [ENTER] to fill the slice with that pattern. If you choose 'DEFINED' from the options icon, then the last series of patterns you selected will be used.


Printing the pie, adding text headings, saving data and so on is the same as for the bar charts and line graphs.



▲ Drawing a pie chart. Longer titles can be put in the key by overwriting with text.

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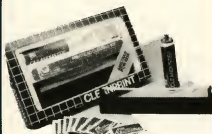
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Softly softly  
ASCII question

You may wonder how you can use the same command to sort out words and numbers. The simple answer is that computers always regard letters as numbers (the famous ASCII codes) so when a program sorts alphabetically it just sorts out the numbers that represent the letters. The problem is that 'K' has ASCII Code character 65 and 'a' has ASCII Code character 97. This means that a word beginning with 'Z' comes before a word beginning with 'a'. However don't panic. Cracker is far too clever to be caught out by this old trick and will handle mixed upper and lower case letters without problems.

## Sort of problem

A quirk of Cracker's sorting routine is that short names come after long names – i.e. it would sort 'Smyth' after 'Smythe'. Everything else is sorted as expected though.

No	Name	Address1	Address2	Address3	Credit Limit	Total
1	Dallas Film Co	The Film Lot	Dallas	America	20,000.00	
2	Zeddee and Sons	The Waterfront	Bath	Avon	2,000.00	
3	Dallas Cowboys	The Stadium	Dallas	America	1,500.00	
4	Quetzalcoatl & Co	The Liana Park	Lima	Peru	750.00	
5	Hardwark Clothing Co	Bide-A-Mee	Warrminster	Wiltshire	100.00	
6	Bez Fashions Ltd	Broad Gates	Sicily	Italy	50.00	

No	Name	Address1	Address2	Address3	Credit Limit	Total
1	Dallas Film Co	The Film Lot	Dallas	America	20,000.00	
2	Dallas Cowboys	The Stadium	Dallas	America	1,500.00	
3	Hardwark Clothing Co	Bide-A-Mee	Warrminster	Wiltshire	100.00	
4	Zeddee and Sons	The Waterfront	Bath	Avon	2,000.00	
5	Quetzalcoatl & Co	The Liana Park	Lima	Peru	750.00	
6	Bez Fashions Ltd	Broad Gates	Sicily	Italy	50.00	

No	Name	Address1	Address2	Address3	Credit Limit	Total
1	Hardwark Clothing Co	Bide-A-Mee	Warrminster	Wiltshire	100.00	
2	Bez Fashions Ltd	Broad Gates	Sicily	Italy	50.00	
3	Dallas Film Co	The Film Lot	Dallas	America	20,000.00	
4	Quetzalcoatl & Co	The Liana Park	Lima	Peru	750.00	
5	Zeddee and Sons	The Waterfront	Bath	Avon	2,000.00	

▲ You can sort the entries in various ways. Here we have sorted alphabetically, by town and by credit limits.

Then in the part of the sheet where you are keeping track of the total amount of money due, you use the magic command SUMIF. Say your day's entries are in column G lines 13 to 20 and the column for your first account is I – again lines 13 to 20. At the suitable spot in the customer account line you enter SUMIF (F13, I13, .. I20), which translated means 'if you find any markers in the column I add in the entry in same line in column F'. The program will cleverly only pick out and add up the entries for that account. Copy the formula for every account using a different column each time.

If you work with a big enough spreadsheet you could have a separate total for each day's entries and then add them together to work out the total debt run up by each customer in a week – all simply by entering details in two columns in your day sheet.

EXIT

## Use it Again

The best way to make life easy when using spreadsheets is to keep as many matrices as possible. A matrix is an empty sheet with all the formulae in the right places and the headings all typed in waiting to be filled with information. So when you have your layout just right be sure to save a version under an easily memorable name.

The great thing is, if you work things

properly, you can add and modify lay-outs as circumstances change. If you get a new customer and you simply add a line at the right place (Insert (L)ine (RETURN) (RETURN). If, heaven forbid, you lose a customer (or you discover they are going over their credit limit too often) you remove them with z (for Zap of course) and L.

## Over the Top

One problem with debtors is making sure that they keep within the credit limits you have set – especially when the totals are being totted up automatically and the total may not be displayed on screen at the time. So you need some sort of warning to let you know when a customer goes over the top.

Luckily Cracker gives you this in the unlikely named Bleep command. This allows you to set a condition on a cell (like an IF statement in BASIC) which, under certain conditions will sound a warning bleep.

In the example we are working on, credit limits have been set against each account and a total is worked out of money due. So it is

easy enough to work out the credit still available by taking one from the other.

But just in case the amount should exceed the set limit on the account it is more sensible to put in a simple IF statement. Write in ZF (ZF3-13), TDOX (T3-13), KLSB (B1-13) which simply tests whether the credit limit is more than the amount due and if it is it subtracts the one from the other and shows the credit still available. But if the amount due is greater than the credit limit the PCW gives a little bleep of warning, even if the part of the spread sheet is not showing on screen – telling you to check the credit limit.

▲ Set up the columns to use SUMIF.

No	Name	Address1	Address2	Address3	Credit Limit	Total
1	Dallas Film Co	The Film Lot	Dallas	America	20,000.00	
2	Zeddee and Sons	The Waterfront	Bath	Avon	2,000.00	
3	Dallas Cowboys	The Stadium	Dallas	America	1,500.00	
4	Quetzalcoatl & Co	The Liana Park	Lima	Peru	750.00	
5	Hardwark Clothing Co	Bide-A-Mee	Warrminster	Wiltshire	100.00	
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No	Name	Address1	Address2	Address3	Credit Limit	Total
1	Dallas Film Co	The Film Lot	Dallas	America	20,000.00	
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3	Hardwark Clothing Co	Bide-A-Mee	Warrminster	Wiltshire	100.00	
4	Zeddee and Sons	The Waterfront	Bath	Avon	2,000.00	
5	Quetzalcoatl & Co	The Liana Park	Lima	Peru	750.00	
6	Bez Fashions Ltd	Broad Gates	Sicily	Italy	50.00	

No	Name	Address1	Address2	Address3	Credit Limit	Total
1	Hardwark Clothing Co	Bide-A-Mee	Warrminster	Wiltshire	100.00	
2	Bez Fashions Ltd	Broad Gates	Sicily	Italy	50.00	
3	Dallas Film Co	The Film Lot	Dallas	America	20,000.00	
4	Quetzalcoatl & Co	The Liana Park	Lima	Peru	750.00	
5	Zeddee and Sons	The Waterfront	Bath	Avon	2,000.00	

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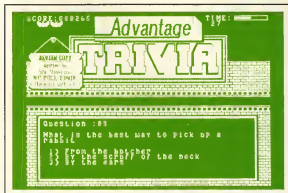
For each question you have a choice of three answers; it's against the clock and you're only allowed three blooms. These 'lives' are displayed at the top left-hand corner of the screen, under the scoreboard, by vague pictorial representations of what looks like three pairs of telly knickers. They disappear, one by one, as you record a particularly ludicrous answer. The machine will emit a congratulatory whistle when you answer correctly and a faintly disapproving electronic raspberry if you don't. If you don't want everyone within a ten mile radius to know that Big Bird is proving too much of a match, then you can switch off the sound effects. This is a good idea anyway, as it does tend to get on your nerves after a while.

The questions will provide entertainment for most age

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EASE OF USE ■■■■■ DOCUMENTATION ■■■■■  
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groups and are not particularly soul-searching; it's probably fair to say that few of us are labouring under the illusion that Jesus was born in Norway or that Jackie Collins wrote the diaries of Anne Frank. Still, the ticking clock might provide that extra edge. High scores can be recorded for posterity (or at least until you switch off the machine) alongside the winnings of Frank Bruno *et al.* A more searching test of intelligence is how long it takes your children to discover that pressing the [PTR] key interrupts the timer, giving you unlimited free thinking time before proceeding with [EXIT].

After a while some of the questions will start to look familiar, and although the order of the multiple choice answers may well have changed, the answers themselves



have not (though the production version promises more questions). There's no facility to add questions of your own. The appeal of the game is not, therefore, particularly sustained, although with its jolly graphics and straightforward play it may well prove appealing to a younger player.

### AIQ

£25.95 • Ansible (0672 62576) • All PCWs

Computer programs produce organised, comprehensible output (most of the time). AIQ intends to do the opposite. It randomises text so that different words and ideas, stored in the program's lexicons, are placed together in a totally unexpected, yet highly structured way. The program is easily programmable once you know how, so you can readily create datafiles (or lexicons) and, effectively, bend the program to accommodate your own lexical fancies.

There are ten example lexicons producing everything from plausible random Shakespeare to totally unconvincing random Japanese haiku. The APHORISM.DAT lexicon, for example, will generate a seemingly perpetual flow of Churchillian sounding maxims. As long as you keep pressing the space bar, the datafile will continue to graft together aphorisms of quite unequalled unintelligibility. 'Resignation usually hatches that cynicism which unhappiness terminates' is just one of the gems from The Ansible Dictionary of Forgotten Quotations. Similarly, the PLOT.DAT lexicon will produce a random assortment of characters and plots which may trigger off a wave of long-dormant inspiration in the budding story-writer.

The real interest of AIQ, however, lies in creating your own lexicons. The program's lexicons are straightforward datafiles in ASCII or plain text format which can be edited like ordinary documents inside a wordprocessor. To help you concoct your own lexicons, included in the program is a Text Editor. First of all, you need to decide on a lexicon format.

RANGE OF FEATURES ■■■■■ PERFORMANCE ■■■■■  
EASE OF USE ■■■■■ DOCUMENTATION ■■■■■  
8000 PLUS VALUE VERDICT ■■■■■

The supplied CAT.DAT datafile operates as a demonstration, and contains the startling revelation that the cat sat on the mat. By agreeing on a relatively simple sentence format like this one, you provide the program with the skeletal sentence structure that it needs. To randomise the text, all you have to do is make that sentence capable of including certain variables. Inserting square brackets in the template sentence, for example, will inform the program that any text you include between them is to be considered variable. The words which you include in the ensuing wordlists can be considered the variables with which the skeleton sentence can ring the changes.

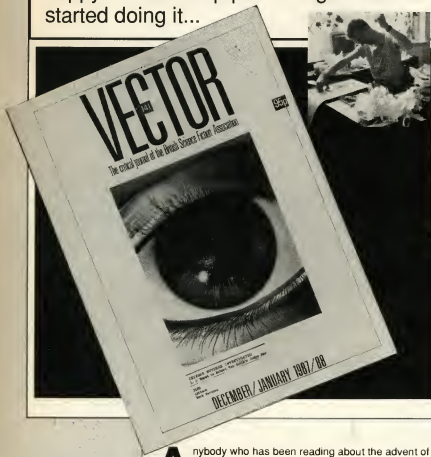
If the word 'cat' is to provide the first variable space in the sentence, then wordlist number one will contain the variable alternatives - like gorilla, hamster, armadillo or whatever else takes your fancy. If 'mat' is to be the second variable space, then the second corresponding wordlist might include changes like wardrobe, tophat, and so on. Once you've mastered this, you can go on to include variable personal pronouns, adjectives and adverbs. It's up to you. Before long you could end up with all sorts of creatures doing all sorts of activities on all sorts of things. Following chapters in the User Guide will go on to explain how to make your lexicon formats more complex and, consequently, more interesting to play around with.

The answer to the question 'yes, but what use is it?' is almost certainly *none at all*. The very suggestion of practical use is strenuously denied by the manual. It's all wacky, zany and madcap fun and must be undertaken very much in the spirit of experimentation. For this reason it will appeal little to the mailmerging, spreadsheeting businessperson, and at £25 is not cheap for what it does. However, it is easily programmable and will provide the dabbler with hours of amusement.

24 hour order service on 0890 2854

# VECTOR PRODUCT

For years Simon Nicholson was blissfully happy with desktop publishing. Then he started doing it...



## Holy Cow Gum

For the actual pasting up I use cheap and easy Prittstick, though many people swear by Cow Gum. Aerosol fixative is only advisable in a professional environment, and it doesn't do much for the ozone layer.

## Rules are rules

There are some very useful established rules and guidelines concerning the dos and don'ts of professional layout. Unfortunately I am an amateur and so I never bothered to learn them. I must trust my own judgement of what looks good and what doesn't.

**A**nybody who has been reading about the advent of desktop publishing may well have been encouraged to have a go at creating their own amateur magazine.

Presumably the 8000 Plus writers are now ex-directory, and cannot leave their houses during the hours of darkness for fear of retribution from readers. Because, no matter how you go about it, Magazine Production is an awful, tedious, fatiguing, stressful, mind-numbing, and ultimately thankless activity. And I should know, because I do it for fun...

My hobby is working for the British Science Fiction Association, or BSFA (pronounced *bosfa* by experts). I produce the BSFA magazine Vector, a critical journal of Science Fiction or 'Sci-Fi' (pronounced *skiffy* by experts). I am what is commonly known as a Production Editor (pronounced *knackered* by experts; at least, that's how I feel after production of each issue).

The PCW is the backbone of the BSFA, such that we often wonder how we survived without it. All six Vector staff use their own 8000 series machines. Four of us — myself and the three Production Assistants — have the PCW8256, and two — the Editor-in-chief and the Reviews Editor, naturally — possess the 8512. It has reached the point where

anyone wishing to join or replace a member of the team will need to have their own PCW or compatible, no buts. Perhaps it will come as no surprise to you that an organisation for science fiction fans has become dependent on technology. Even so, a number of wild-eyed technophobes can often be heard to complain that these little green-faced machines have been subtly invading and taking over SF fandom in a highly suspicious way...

## Lego my foot

As Vector's Production Editor, I am responsible for designing and pasting up the master copy of each issue of the magazine.

Do we use a desktop publisher program? Do we hell! Just one look at those Olde English fonts built up from faded lines of dot-matrix, or those oh-so-attractive little pieces of snap-art that appear to be built from Lego, and my aesthetic old Production Editor's stomach turns in disgust. A magazine produced with a PCW doesn't have to be cheap and nasty, but it will be without a great deal of effort and little time. If you want to produce anything even remotely decent, you have to do everything the hard way.

Strictly speaking, a good graphic designer should be able to produce masterpieces with an old pencil stub and a piece of brown paper: equipment is merely to make things easier. Even in its basic word processing capacity, however, the PCW makes my job so much easier that I no longer know where to begin without it. I feel the PCW is really an 'ease' machine. It doesn't let me do anything I couldn't do before, but it does make certain tasks so much quicker and easier. The DTP packages make me think that some people expect too much of their Amstrads.

## Should you require assistants

The production team all work from home and may never even meet each other. Every two months the Editor sends rough or even handwritten copy, with notes on the desired result, to the three Production Assistants. The Assistants type in and print out all the material on their PCWs. My own PCW is used for short notices, contents pages, lists, 'continued on' messages, corrections, and all those unforeseen changes and additions that have to be made at the last minute.

Consistency is important throughout. We have established a 'house style' covering things like format, character pitch, abbreviation, number of spaces after punctuation, when to use italics and bold, and so on. I also have to stick to an established layout where the magazine design is concerned. This isn't being stuffy or traditionalist: if everyone working on the magazine did things differently, the result would look a mess. A house style lets everybody know what they should be doing.

Pages of correctly formatted and justified text are sent to me through the post. I can then cut out the text into columns and number the back of each sheet with a light pencil. The best way to cut out columns is to use a foot-long metal rule (from any toolshop) and a scalpel with a fresh blade (I recommend a Swann-Morton No. 5 handle and Swann-Morton No. 10A blades for ease of use). The best surface to work on is a cutting mat, a hard plastic mat which 'heals' after being cut, and also protects your worktop. OLFA makes them in different sizes; you can get the green A3 size for about £9 from any Graphic Supplies Shop.

The basic page layout is drawn with a hard pencil and a 600mm plastic rule onto plain A3 sheets (though, for speed, I will sometimes work on A3 photocopies of old pages). Vector is an A4 magazine, but by working on A3 it is not only easier but also allows us to fit twice as many words on each page. The printers will reduce each page before copying. Most pages have two columns of text, but the reviews (always at the end of the magazine) have three columns. At

this stage I can play around with the cut-out text, working out how much space I'm going to need and what would look best.

### Edging for success

When I've settled on the page arrangement I draw in the column outlines and blocks using a Faber-Castell fine ink technical pen and a fine point marker. Try Pentel, Nikko, or Edding. "I don't suppose you have an Edding 1800 *profpen* 0.1?" I asked on my first visit to a Graphics Shop. "Ooh, I think so," replied the assistant, reaching into a large plastic bin full of several thousand Edding 1800 *profpen* 0.1s...

For headers I use the rub-down letters of Letraset. It may be expensive – and we're talking about £5 for a single sheet – but it is attractive. Anyway, that's what expense forms are for. The Letraset font Univers 49 is used almost exclusively for straps and headers; page numbers are in white Univers 57 on black squares of Letratone. The best way to get neat and tidy Letratone is to rub it onto card first and then paste the whole title down into your page, wherever you want it. I use a type of thin card like graph paper which has millimetre graded lines. The light blue colour of the graph lines doesn't reproduce in any b&w copying or printing process, so you can position the Letraset precisely without the bother of drawing and rubbing out hard pencil guidelines. If you can, choose short simple titles: I still ache from my attempts at rubbing down *Futuristic Gloveleather Blouson: SF and the New Man* by Gwyneth Jones in 72 pt Letraset.

### Art for space's sake

For artwork and fillers we rely on the generosity of artistically-gifted members. I always paste up photocopies, preferring to keep original artwork in case it is needed again; especially since my local printshop is able to enlarge or reduce copy to the size I require. Though I myself have been forced to create some miniature sketches when nothing else I possessed was the size of a coffee stain... Reproductions of dark artwork will sometimes have faded patches. Just go over the copy with a marker and a felt tip before pasting up.

Vector often features photographs of famous SF authors or pictures of SF book covers. These have to be turned into dots, or screened. If your magazine is to be reduced, bear in mind that a highly detailed screened picture may well be turned to a grey smudge by reduction. The answer is to screen your photos in a suitably low resolution or pitch (dots per inch). On A3 reduced to A4, a photo screened in 80-70 pitch will reduce to 80-90 pitch (a much higher resolution) with no significant smudging or loss of detail.

When everything has been pasted down I can go over each page with Tippex, erasing unwanted marks and lines. I will also Tippex thickly around pasted-down text if the edge of the paper is likely to cause a shadow on the final result. This process must be repeated for every one of the 24 pages of Vector.

### When you're ready

Once the magazine copy is ready, I have to put all the pages in order and post them off to the printers. Although it is no longer my problem, I still worry about the Horrendous Things that might happen to my hard work between posting and printing. This agony will last about two weeks; then comes the weekend when I travel to the mailing session, where myself and other volunteers will collate, staple and fold the thousands of magazines and put them in envelopes ready for posting to the membership.

How do I manage it? How on earth can any human being fit all of this unpaid activity into his spare time? Well, I suppose it's time to come clean. As has long been suspected of many SF fans, I am not quite human. I am actually part of a bio-mechanical symbiosis, half man and half machine, called a Probot. We Probots are specially

The British Science Fiction Association was formed in 1958. An amateur organisation for fans of the genre, the BSFA is recognised as an important authority on the subject of Science Fiction. It aims to promote and encourage the reading, writing and publishing of SF and fantasy in all forms and media – everything from books, magazines and comics to TV, cinema and theatre.

Every two months we publish Vector, a critical journal; Matrix, a news magazine; and Paperback Inferno, a review of the latest

paperbacks. Focus, a forum for writers, is published every four months. Other BSFA services include Orbiter, a postal workshop for SF writers; an SF Information Service; an SF Lending Library; and a postal Magazine Chain.

Membership costs £10 per annum, and this includes subscription to all BSFA magazines. Details are available from the BSFA Membership Secretary, 33 Thornville Road, Hartlepool, Cleveland, TS26 9EW.

designed and engineered to work as slaves for Editors (as I'm sure the Probots in 8000 Plus's art team will agree). Our thought processes are computer-aided (my better machine half happens to be a PCW); wires trail about our feet; our visual sensors are enhanced with lenses; and we have scalpel blades at our fingertips. We Probots must always keep quiet and please our masters, because if we don't we might just be deactiva

### Exceptions rule

The exception to my rule against creating headers with the PCW is that I will gladly use the more restrained fonts of Tawford 8000 for subheaders, particularly the Blade-Runner style of font called Breaker.

EXIT

## CHINESE MURDERS INVESTIGATED

by L.J. HURST

Li Rupei appoints Professor Derek Burton's famous deduction of SF to Robert van Gail's Judge Dee stories

ONE OF THE MOST IMPORTANT WORKS IN A GENRE challenge the traditions of the genre. For instance, David Delaney's *Knives* takes challenge away of the writers of sword and sorcery. Judas Jones writes a very interesting article about these and Delaney's writing about them is a perfect blend of horror, while Delaney knew what he was doing, some words may challenge the hands of their genre without making clear that that is what they are doing. This may be an attempt to demonstrate that this challenge can be identified, and why it is worth looking for it.

Sometimes critics try to distinguish SF from genres they are not used to, such as science fiction, fantasy etc. Derek Burton makes this distinction in his essay 'On the Particular of the Science Fiction Genre' and his definition of SF as 'a literary genre whose narrative and mythical conditions are the presence and absence of strangeness and cognition, and whose main formal device is the negative discovery of the author's empirical environment'. However, I now want to use his argument to reverse himself. I want to show that van Gail's Judge Dee detective stories and those that may be called 'fantasy' detective stories are not so different, while the fact that they are not is somewhat curious. One can see detective stories would seem to include them. 'Fantasy detective' is specific to murder mysteries, and a 'science fiction' detective story is a 'science fiction' detective story.

If 'cognition' is the main device that stories use, the reader's mind is the main device that stories use. The reader's mind is the main device that stories use.

The historical detective stories of Edgar Poe and E. C. Rieu are more or less detective stories. The reader's mind is the main device that stories use. The reader's mind is the main device that stories use. The reader's mind is the main device that stories use.



The stories are not fantastic – the most common error that the genre investigated by Judge Dee in several fantasy investigations extending to a main, while scientific fiction that they and the authors are quite aware. However, a society in which failure to read one's own culture and the world is not a failure, but a failure. It is one of the long way from the world. It is one of the long way from the world. It is one of the long way from the world.

The stories are not fantastic – the most common error that the genre investigated by Judge Dee in several fantasy investigations extending to a main, while scientific fiction that they and the authors are quite aware. However, a society in which failure to read one's own culture and the world is not a failure, but a failure. It is one of the long way from the world. It is one of the long way from the world. It is one of the long way from the world.

We are intrigued by these stories because the characters in them were either some modern (Judge Dee as the rational detective) or because the stories can be read as modern (Judge Dee as the rational detective) or because the stories can be read as modern (Judge Dee as the rational detective).

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9512 owners have a bunch of free goodies on their systems discs. In particular, LocoScript 2 comes with LocoSpell, the spelling checker, and LocoMail, the mail merger, for free. Taking a few hours to discover the workings of LocoMail could be one of the best time investments you'll make...

**L**ocoMail is where your PCW stops looking just like a smart typewriter-cum-filing-cabinet and starts looking like an intelligent and lightning fast secretary who never makes mistakes, will work through the night without pay, and doesn't need any coffee to keep going. It's a system of feeding information into a standard document – say an employment contract, or a mail shot to your customers – from either the keyboard or from another file.

For example, you can store a contract of employment skeleton letter with blank slots for the name, starting date, etc. When a new employee joins, you use LocoMail's 'Fill' which just asks you to type in the required items and puts them into the appropriate places. You can then print out the document, save it, erase it, etc.

Alternatively you can set up a mail merge letter – the celebrated 'Great news! You, Mr Wojtyla, have been selected out of all the people in *The Holy See* to take part...' letter. Your main document has slots for each name and address and in a separate file you store all your names and addresses. LocoMail then does all the work your harassed secretaries, or more likely yourself, would do: inserting each name and address appropriately, reformatting the letter to fit, and printing it out.

More sophisticated uses are possible. You can set up a calculator, keep a database of your music cassettes which prints out labels to fit each box automatically, do all your invoicing... we'll move onto these later on in the series.

## 'F'ing and Merging

LocoMail operates in two modes. When you load your Start of Day disc, 8000 owners will notice all the usual LocoScript editing facilities plus two others: the F (for Fill) and M (for Merge) options. In the Fill mode (which you activate simply by pressing F), LocoMail will prompt you to fill the appropriate spaces within your standard document manually, from the keyboard, with the necessary personalising details (name and address etc.).

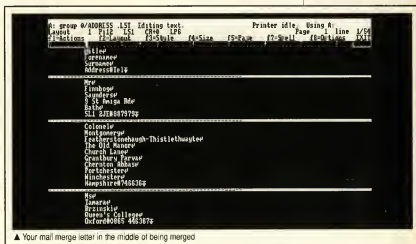
In the Merge mode, on the other hand, the program will automatically take the relevant details that you've stored in a data file and insert them into the document. These two operations have been designed to accommodate two very different tasks. The Fill mode, for example, will help you send out a batch of letters to a relatively small number of people on a one-off basis. Merge, on the other hand, encompasses a much wider application, like issuing letters to a greater number of people on a regular basis.

Most mail-merge work is going to involve creating two files: one in which you must create your standard document or letter, and a data file in which to store the details that will personalise that letter. Create the form document as usual, but instead of typing in the date and the details of the recipient, type in the special LocoMail codes {+}M and [-]M, which display as (+Mail) and (-Mail), or put the name of the variable you want there, ie 'name' or 'address' or 'shoe size'.

Here's the sort of thing you'd have for a simple mail merged letter to all the members of your rambling club inviting them on a walk. Remember that where you see (+Mail) below you type [+M] and similarly for (-Mail) which you enter as [-M] – and those [+M] and [-M] are the setkeys on either side of the space bar (or at the lower extreme left of

# MAIL ORDER

## A new series on how to get the best out of your mail



▲ Your mail merge letter in the middle of being merged

## Covering your options

**When using LocoMail in its manual mode, a number of choices are available to you, once a "pass" has been completed.**

**Edit Result:** You'd use this to go back over a standard letter once it's been merged or filled. You might want to shorten a particularly long letter to avoid a couple of lines straggling over onto the next page. Or you could add further details to a letter that's been created through merging: if, included in your address list is someone whom you particularly dislike, you might find this option useful to season the tone of the communication by inserting a few venomously-worded phrases at the end.

**Print Result:** The option you will choose most frequently; provided paper has been inserted into the printer, the document will be printed and the next "pass" will begin.

**Discard Result:** Bins the outcome of your last "pass" and immediately moves onto the next one. It's particularly useful if you want to check a merge before you reach the point of no return on printout.

**Abandon LocoMail:** This is by far the most drastic of the menu choices, so use it with care. You not only bin the most recent "pass" but the records which you haven't processed will be ignored.

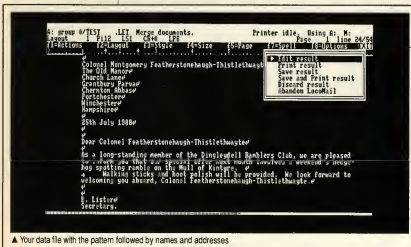
the keyboard on the 9512) *not* regular plus and minus!

```
(+Mail)title (-Mail) (+Mail)forename (-Mail)
(+Mail)surname (-Mail)
(+Mail)address (-Mail)
(+Mail)date (-Mail)
```

Dear (+Mail)title (-Mail) (+Mail)surname (-Mail)  
As a long-standing member of the Dinglydell Ramblers Club, we are pleased to inform you that our special offer next month involves a

## Paging note

Each page which holds the details for one printout of the letter is termed a record. Each line entered within that record is called a field. The first 'page' in the data file is therefore known as a pattern record. This is nothing to do with knitting.



▲ Your data file with the pattern followed by names and addresses

on the data file as well. Press [ENTER]. The resulting Merge Documents Menu will then give you the choice between a 'manual' and an 'automatic' merge.

The 'automatic' option will fill and print one letter for each record in the data file without stopping to ask you if everything's okay. As long as the printer is being fed continuous stationery, the procedure will require no intervention from you. In fact, you'll have enough time to go off and have a cup of tea or twelve.

The 'manual' option, on the other hand, stops at the end of every letter (or 'pass') to allow you to repeat, if appropriate, the choices of printing, saving, editing or discarding. The Edit Screen will replace the Disc Management Screen and the letter, as we composed it, will fill the screen. The variable names between the Locomail codes will start to slide off the screen, and be replaced with the details of the first Dinglydell Club member on the data file. Note how Locomail automatically formats the letter, whatever the length of the name in the last line.



▲ Doing a 'Fill' — to enter that address, each line is ended with a [RETURN] but an [ENTER] signals the end of the address. Other items of information like the name are signed with [RETURN]. Note that you don't have to enter the title or surname again once it's been entered.

## At length

If you want an automatic merge, of course you'll have to set the original document for continuous stationery. In Locomail Setup, then press [F5] and take 'Paper type'. Move the cursor to '11" landscape' and press [+][EXT] and [ENTER] suitably back to the main document. When printing, change if necessary to paper intended for document.

weekend's hedgehog-spotting ramble on the Mall of Kintyre. Walking-sticks and boot-polish will be provided. We look forward to welcoming you aboard, (+Mail)title(-Mail) (+Mail)surname(-Mail).

B. Lister

Secretary

## Just for the Record

The next thing to do is create a datafile, again at the Disc Management Screen. In this file, you're going to keep the name and address of every member of the Dinglydell Ramblers Club, which will then be incorporated into the standard letter that we've just created. The first 'page' in our data file is going to be an exact replica of the details entered within the Locomail codes at the beginning of our standard letter. This acts as a kind of template for all the other 'page' entries in the data file, the pattern to which all the data subsequently entered in the file must conform. The first page looks like this:

```
Title[RETURN]
Forename[RETURN]
Surname[RETURN]
Address#Tel(end of page)
```

Locomail is very sophisticated when it comes to handling data of varying formats. Some mail mergers expect all the addresses in the world to be the same number of lines as you specify in your pattern address. What happens, though, when addresses vary in length — which is always the case?

What you do is something like this. The first page of your data file tells Locomail that everything up to the first [RETURN] is the title; that everything after that up to the next [RETURN] is the forename; everything between that and the next [RETURN] is the surname; everything between that and the # is the address (however long or short, however many lines) and everything between that and the end of page is the telephone number.

You can use any non-alphanumeric symbol in place of # here, i.e. any symbol which isn't a letter or number — a semi-colon, a \$ sign, a \* symbol etc.

After 'Tel' (and this applies to every record), select the End Page Here option from the [F5] Page Menu — not the [RETURN] key (or just press [ALT][RETURN] which is quicker). A page-end bar appears on the screen, and, having completed the pattern record, you're now ready to enter the corresponding details of the Dinglydell Club members on that format. When you've done that, press [EXIT] and save the file.

Back at the Disc Management Screen, place the file cursor on the master letter and press [+]. At the top of the screen, you'll see a message asking you to place the cursor

The only problems you're likely to encounter at this stage will, almost certainly, be the result of mismatched variable names and data file records. This is usually due to spelling inconsistencies — check the variable names are the same in data file and main file, and don't put spaces in them. 'Address' is fine for a variable name but 'Address 1' isn't. If your machine displays 'Syntax Error' or something, take a deep breath, select the Abandon Locomail option from the menu and re-examine both your standard document file and data file.

## Having your Fill

If you want to produce a document for a smaller number of people without having to go to the trouble of creating a data file, then using the Fill option will probably be more appropriate. This allows you to fill directly from the keyboard — rather like filling in the spaces on a blank form. Back at the Disc Management Screen, place the file cursor over your standard letter or document and press [+].

Note in the Fill Menu the absence of a prompt to name a data file. This time, when the letter is displayed on the screen, the variable names act as a prompt in themselves and what you type in manually to replace them will shortly be displayed in the letter. When you get to the line, Dear So and So, you won't be prompted because the information that you typed in earlier is still being retained inside Locomail's memory. Once you've finished that particular 'pass', be careful not to select Abandon Locomail or you'll end up losing that particular Fill! If you choose Fill again, the same master document will be brought back up onto the screen ready for another 'pass'.

Next month: Conditionals, or, in which we describe how to make the letter change to suit the recipient.

## At 8s and 9s

9512 owners have Locomail already on their Locomail disc. 8000 owners have to copy the file Locomail.JOY from the Locomail disc they bought onto their status disc. Make sure your version of Mail is compatible with your Locomail — Mail for Locomail 2.04 won't work on Locomail 2.16 for example. And no, you can't use Locomail from your 9512 to your 8000 or 8512 — copyright laws demand you buy Locomail again, and anyway it won't work.



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Haver

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# BE ADVENTUROUS

For all budding Douglas Adamases: Pat Winstanley offers some DIY tips

**B**efore anything else you must make a back up of the original disc as you will probably be altering some of the files to suit your machine and you would be well advised to find an alternative to the supplied text editor as it is very basic, with none of the cut and paste or block move facilities essential for efficient working. Your best bet is probably to use LocoScript to prepare your files and make ASCII versions of them.

Assuming you need to use the Editor it must be installed for your machine. Gilsoft give full instructions on how to do this - the final settings are on page 54 of the 'Introduction'. Next you will need to repeat the operation for the Interpreter. The settings for this are given overleaf. If you later find that your screen display is wrong you have probably either mistyped the settings or not saved the corrections properly back to your working disc.

The Editor, whether you are using the program provided or preferably your own alternative, is used to enter the information required by the adventure in text form. This information is entered in clearly defined and numbered sections to create a database which will be compiled by the Compiler into machine code and saved as a new file. The machine code file is then acted on by the Interpreter which takes the game data and presents it on screen, handling all the driving operations which make the game run.

## Source of the file

Load the file "START.SCE" into your editor and make a hard copy of it for reference. The Start file can be compiled and interpreted but nothing much will happen as it consists of only the most basic information common to all adventures.

As your adventure grows you will find that holding all the information in a single source file can become very unwieldy. With this in mind, split the "START.SCE" file into its component parts, adding at the end of each section a link line such as "/LNK nextfile" where "nextfile" is the name given to the file containing the next section. A reasonable split of the files is given in the box overleaf.

Splitting the source files in this way makes manipulation simple and ensures that sections not affected by changes as you work are in no danger of being altered accidentally as they are not in RAM at the time, but safely stored out of harm's way.

The source files contain two different types of information. Sections /STX, /MTX, /OTX and /LTX contain text to be written to the screen during play. (Don't worry about formatting on screen as the Interpreter takes care of this for you automatically). The other sections (/CTL, /VOC, /CON, /OBJ and /PRO) are rather different as they hold information which is hidden during play but is used by the Interpreter to control what is happening to the player and his surroundings. Some sections also need corresponding entries in other sections for instance each entry in /LTX must be coupled with an entry in /CON even if the latter is empty, being simply a line number. If you miss one or the other out an error will be thrown up during compiling.

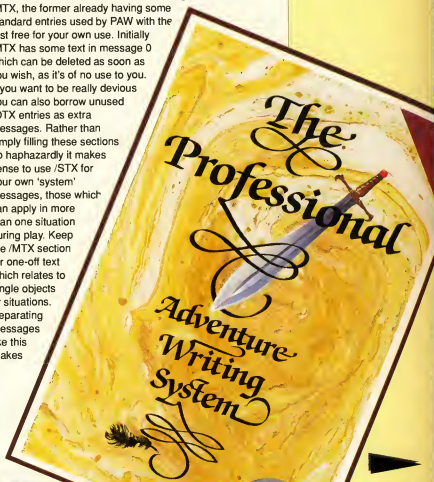
## Details, details

Sections /LTX and /CON contain the information required to allow the player to move around. Each /CON entry relates to the location of the same number and lists (each on a new

Gilsoft's Personal Adventure Writer is a programming system which lets you write your own adventures. But before you go and write your own version of Hitch Hikers' Guide to the Galaxy or The Pawn, here's a few tips to save you time, trouble and energy.

line) the possible exits from the location given by the direction word and the location to be moved to. Connections should be entered even if the player will initially not be able to move, conditional exits being dealt with in the process tables.

Two sections are available for messages, /STX and /MTX, the former already having some standard entries used by PAW with the rest free for your own use. Initially /MTX has some text in message 0 which can be deleted as soon as you wish, as it's of no use to you. If you want to be really devious you can also borrow unused /OTX entries as extra messages. Rather than simply filling these sections up haphazardly it makes sense to use /STX for your own 'system' messages, those which can apply in more than one situation during play. Keep the /MTX section for one-off text which relates to single objects or situations. Separating messages like this makes



## Skeleton source

Load the file "START.SCE" then build it up to maximum size by adding empty entries to their allowed limit in all sections except the process and vocabulary tables. Then save this new file as "SKELETON.SCE", compile it to check everything is correct, and use it later as an empty database in which you can insert the data for your game.

Having a ready made skeleton saves you repeating tedious exercises (such as all the 'null' entries in the /OBJ section) for each adventure you write. It also ensures that you don't exceed the maximum number of permitted entries in any section and that each location has a connection entry and each object text an object definition.

open door.  
You enter the publishers' place. It is a large, open-plan office. Several  
sorely artists are wandering about listening to walkmans. A few writers  
are sitting doing the Guardian crossword. There are computers everywhere  
but the place is very untidy and piles of paper appear to hide most of them.  
In the entrance is a large coffee machine.

What now?  
 Look at machine  
 The coffee machine has a large sign on it: 'All drinks free - enter number of drink received'. There is a list of drinks available.

```
What now?
>look at list
According to the list, the drinks are: coffee, 023; tea, 043; mineral water,
024; Robert Lager, 054; Japanese sake, 003; and a 'mystery drink', 000.
```

```
What now?
>press 454
A white plastic cup drops into the dispenser tray and is filled with golden
brown Export Lager.
```

What now?  
 Drink lager  
 Shame about that. Your liver begins to shrivel, you lose your sexuality and your mind starts to wander. You labour under the delusion that you are Scottish and that you once met Jimmy Shand. You start to ramble about your old mates in Glasgow who could drink 20 pints a night. You are taken away quietly. One of some.

▲ A DIY adventure set in a mythical magazine publishers

Comments  
please

Throughout your source files use a liberal peppering of comment lines (i.e. text following a semi-colon). It's amazing how quickly you can forget the purpose of different entries, and how much time can be saved by full documentation. It might be a chore to type comments in but if you really want to write a saleable adventure you can't take short cuts and the rewards are well worth the effort involved.

debugging a lot simpler.

Objects are defined in two ways. Textual descriptions are entered in /OTX while the various attributes of the object are entered at the corresponding number in /OBJ. Each entry in one section must have a corresponding entry in the other and in the case of /OBJ the entry must be filled with the underline character if nothing else is required. Any object which can be used as a container must have a location of the same number associated with it. This location is used as the inside of the container and should not be also used as a 'real' place in the game. Careful forward planning is needed to avoid confusion during development. Try to decide at the start how many containers you will have (remembering things like ponds, cupboards etc. as well as suitcases and buckets) and arrange the numbering of locations and objects so that the minimum number of each are used. Every entry in the source files, even if it isn't actually used, takes memory in the final game. And remember that although unused entries can be deleted later, all numbering must be consecutive so you can't leave gaps in the source files, only truncate them.

## It pays to increase your word power

Vocabulary is likely to cause one of the biggest headaches unless you keep things simple to begin with. In the manuals, you will come across the expression 'conversion nouns' which can be rather confusing. It relates to those words which can be used with the same spelling as either nouns or verbs. Thus if you had a pot of paint, a paintbrush and a painting in your adventure the player's commands might include something like "Paint the painting with the paintbrush". Remembering that PAW recognises only the first five letters of a word this command contains the verb "paint", first noun "paint" and second noun "paint". To accommodate situations like this, nouns in /VOC with numbers less than 20 will be treated by PAW as either verbs or nouns depending upon the context. These are conversion nouns.

Until you become accustomed to the workings of the parser it's best to stick as far as possible to just nouns and verbs. Wait until you've had some practice before tackling other parts of speech. Remember too that many players like myself who have been brought up on the old verb/noun only games tend to play even complex adventures in this way and expect commands such as "Put eggs basket" to work. If you have arranged for the required input to be "Carefully put the fragile eggs inside the shopping basket" you will end up with many frustrated not to say enraged players. Only when confusion could occur such as the availability of both a shopping basket and a picnic basket should you force the player to specify exactly what is wanted.

## Prototaxations

If you are using Protext you will find that system message 33 causes a printout problem as the ">" character is used by Protext to indicate stored commands when at the beginning of a line. Simply insert a space before it in the text and the problem is solved.

**In the process**

One of the most confusing aspects of process tables for the beginner is where to put different entries. The main thing is to use common sense and the flowcharts provided by Gilsoft but as these can be a little confusing until you grasp the overall picture here are a few pointers.

The response table /PRO 0 is checked first and normally contains entries which depend largely on the command typed by the player.

034; Export Lager, 054; Japanese sake, 003; and a 'mystery drink', 000

A white plastic cup drops into the dispenser tray and is filled with a greenish-brown foul-smelling liquid which stinks a little.

That pure  
drink I could  
the liquid tastes suspiciously like a vintage Veuve Clicquot doesn't. Despite  
the protests of your stomach which threatens to walk out in disgust we keep it  
down. Meanwhile watching as your very strong point and you can't be sure if  
your head is spinning with respect to the rest of the universe or vice-versa.

You wake up on the floor of a bar in downtown Tokyo. You can't figure out what you're doing there. A Japanese-looking woman is helping you up.

What now?  
 I say hello to women  
 Ah, she says, 'Igirisa, in dashoo? Wihongo ukariaasoo ka? Ukariaasoo ne'

What now?  
Woman, where am I  
She circles her shoulders and smiles inscrutably.

What now?  
 Anyway, what is your name  
 She shrugs her shoulders and smiles inscrutably.

Table /PRO 1 is only checked after the player has made a move and is normally used to make adjustments to the location description. Thus a location with a brick wall and a pile of dynamite could have two messages associated with it to be printed after the main description, one to be used when the player first enters and the second after a match has been lit in the location to show a heap of rubble and smoke instead of the wall! /PRO 1 is also used to show objects present.

Table /PRO 2 is generally used to check whether actions performed in /PRO 0 and /PRO 1 have resulted in other changes in the state of play and perhaps tell the player so. For instance it could check for the rising level of water where the player is stranded and whether it is time to drown.

Other process tables can be created which can be called as subroutines from the main tables or each other. These can be rather confusing at first so try practising by creating a different table for each verb which will be called from /PRO 0. Once you have these working satisfactorily you can move onto more complex applications such as speech with characters in the game.

## Vital statistics

Interpreter Settings		
Columns	is set to 90	
Lines	is set to 32	
Timeout	is set to 5461	
Clear Screen	is set to 1B451B48	
Pause	is set to 35	
Source file split		
Filename	Sections included	Link line
"ADVENT.SCE"	/CTL /VOC	/LNK system
"SYSTEM.SCE"	/STX	/LNK messages
"MESSAGES.SCE"	/MTX	/LNK objlst
"OBJTST.SCE"	/OTX	/LNK localio
"LOCATION.SCE"	/LTX	/LNK connect
"CONNECT.SCE"	/CON	/LNK objde
"OBJ_DEF.SCE"	/OBJ	/LNK response
"RESPONSE.SCE"	/PRO 0	/LNK process
"PROCESS.SCE"	/PRO 1 /PRO 2	

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E & OE



# OPERATION PCW

When the chips are down – Sharon Bradley looks at PCW repairs

The Amstrad PCW is a very trustworthy machine. Dealers go to great lengths to explain to you that each machine has been rigorously tested before being released onto the market, and, once it has left their hands, they don't expect to see it again for another two to three years. If then, The various problems that do occur, however, have a certain inevitable quality about them – the effects of 'wear and tear'. Consequently, very little can be done to avoid them – no matter how much care you lavish on your machine. It's

the moving parts within the machine that are likely to go first of all: they simply get worn out. Still, the good news is, that none of the faults that develop as a result of general use are really irreparable. Even allowing for a certain degree of commercial oneupmanship in the field of Amstrad maintenance, none of the repair companies we spoke to would admit to ever having faced defeat in their careers as PCW surgeons.

**W**hat are the problems that beset the PCW? Disc drive replacements are, by far, the most common repairs that are carried out. Disc drive malfunctions can be caused by one of two things: the effect of general wear and tear or rough handling. The moving parts of any machine tend to deteriorate the fastest and the disc drive motors are unfortunately no exception. Nothing you can do will stop them from pegging out. But you certainly won't be helping matters if you insert discs roughly, or switch on or off your machine with a disc or discs still in the drive. These malfunctions are also fairly unmistakable: physically inserting the disc won't be a problem, but as the machine won't be able to read the disc, nothing will appear on the screen. A total absence of that, by now, vaguely reassuring clunk and whirr, normally attendant on any disc operation, will signal the final death knell of your disc drive. Unfortunately, a disc drive exchange is also one of the most expensive repairs that can be carried out on the PCW, costing somewhere in the region of £80.00 inclusive of VAT.

Another very common repair is caused by forgetting to turn the machine off before plugging an interface into the expansion port on the back of the monitor. There's nothing more guaranteed to effectively kill off your machine, because what it does is to blast through the Z80, the main processor chip inside the machine. You'll probably kick yourself if it happens to you, but it really is easy to do (not that it could ever happen to anyone in 8000 Plus, of course, oh no).

Plugging in an interface when the machine is switched on, will manifest itself in a screen which whines when the PCW is switched on but doesn't go white or green as usual. The PCW is completely out of service and it'll take in the region of £40.00 to put right. The Z80 itself is only a couple of pounds to replace, but most repair companies have a

standard labour charge of £30.00 plus VAT, plus the price of the replacement part. It might, at this point, be worthwhile reiterating that whatever you're plugging in to the PCW, whether it's a printer, keyboard or anything, do it when the machine is switched off!

## Key worries

Repair companies say that, on the whole, they rarely have to contend with keyboard problems. However, Software Plus, here in Bath (who handle the frequent 8000 Plus repairs incidentally) say that the keyboards they doctor have nearly all reached quite an advanced state of coffee marination. Indeed, the most common threat that keyboards tend to face is essentially a liquid one. Should the unmentionable happen to you, try resting the keyboard upside down for a little while and letting the moisture drain out. Alternatively, get one of these new protective film covers for the keyboard *before* the event is likely to occur.

The keyboard takes more of a bashing in the course of its daily existence than any other of the PCW peripherals – particularly if you're something of a heavy-handed typist, not to mention an avid games freak. This world-weariness will manifest itself in the gradual erosion of the lettering on the keycaps and, less frequently, in the springs softening under the keys (they rarely peg out completely). The first of these conditions can be avoided by investing in one of the covers we've just mentioned, and the second, by minimising the sledge-hammer technique. If you use your PCW for playing games, then Software Plus, for one, would advise you to get a joystick, where appropriate, and use that in preference to the keyboard. Learning to touch type rather than tapping with two fingers will extend your keys' life considerably.

If the springs underneath the keys do start to suffer – long term PCW users will recognise the spongy key syndrome – then all is not lost: they can be replaced, although this may turn out to be quite expensive by the time you've taken into account the standard labour charge plus the cost of the replacement keys (£2.50 each).

## Blue prints

Printers do generally tend to be quite problematic peripherals on the whole, report various companies like Aeon Repairs Computer House (from Wirral) and SWM Associates of Stoke-on-Trent. Again, most of the things that do go wrong are inevitable – like the printer heads wearing out. It is among one of the most expensive repairs as well, setting you back a good £90.00. Similarly, with the 8000 series printers, continually swapping the types of stationery

### DIY note 1

Keys sticking? You can try overhauling your own keyboard. A tipoff describing how to do this appeared in the September 1987 8000 Plus (issue 12).

### DIY note 2

Before replacing your printer, check it's not just dirty heads. Printer heads can be cleaned by removing the ribbon and printing random text over a sheet of paper with stripes of WD40 on it.

## Three in one

The Amstrad PCW, as we all know, is a fully integrated word processor and personal computer. So when you buy a PCW, you get a monitor, a printer and a keyboard. (With other computers the printer is an optional extra – with the IBM PC, even the keyboard is an optional extra!) But what happens if one of these peripherals develops what is ultimately an irreparable fault? Amstrad make it quite clear that buying just a keyboard, or just a printer is totally out of the question. It would

appear to be an all or nothing situation. Do you really have to buy a complete new system? Well, the good news is that real computer repair shops will usually be able to get hold of a replacement peripheral through Amstrad, who, in turn, receive them from CPC in Preston, Lancashire, dealers in out-of-warranty parts. CPC don't supply individuals, only dealers, so please don't phone them and say 8000 sent you!



you use will dislodge the little white cogs in the printer motor, and they're extremely tricky to put right. Often the platen roller becomes smooth with the passage of time which means any tendency that the paper has to slide will not be controlled as it is fed into the printer. Bear in mind, as well, that these printers are intrinsically delicate peripherals and shunting them around roughly from pillar to post is not a good policy: this is a very good way to damage the printer circuit boards.

One thing that has consistently emerged from the repair companies we spoke to is the special problems they encounter in the PCW 9512 daisy-wheel printer. Most of which, they say, are the result of the design. Many dealers said they have been made on too much of a shoe-string budget and consequently are unable to match the expected tolerance levels. This is reflected in both the materials and the engineering techniques that have been used. Funnily enough, Aeon Repairs have noticed a definite upward trend in PCW 9512 printer problems when the weather starts to get that little bit warmer. In sympathy with its users, it seems that during long, balmy, summer days the printer lapses into a state of lethargy and just won't respond under any circumstances. A lack in the number of heat reduction ports seems to be to blame, say Aeon, because the chips simply get overheated.

### Doctors in the house?

Most of the companies we spoke to operate on a system of maintenance contracts usually lasting up to one full year – you pay your year's fee and anything that goes wrong will be repaired, free, on site if you're not too far away. That's not to say however that they will ignore cries for help from PCW owners who haven't necessarily had the foresight to arrange repair contingency plans. (If you're particularly accident

prone you might like to bear it in mind.) All it means is that those who have, will benefit from more advantageous repair costs.

Dictaphone, for example (see Directory) who handle many thousands of machines, work predominantly on this system of service contracts and will carry out these repairs on-site, if necessary. Keith Halliday of Dictaphone told us that these contracts will cover all other costs. A one-year maintenance contract, with Dictaphone, will cost £36.00 for a PCW 8256 and £48.00 for an 8512. These prices apply to machines that are still under warranty. If the warranty has expired (they last a year) then the contract costs, respectively, £48.00 and £60.00. Dictaphone will not turn their back on non-contract customers, however, and they will carry out ad hoc repairs in situ. They will charge, however, £9.50 per call-out, and £23.00 an hour to cover labour and travelling costs.

They would also like to make it quite clear that they're as

### DIY note 3

If some parts of the print head don't appear to be striking – tails on letters like g and p are disappearing, for example – you can try reassembling the printer head pins. A tip on how to do this appears in issue 17 of 8000 Plus, February 88.

## Banks for the memory

Sudden electricity surges and shoddy soldering are the two chief culprits when it comes to memory failure. Symptoms of this might be documents getting inexplicably truncated while you're working on them. (Check you haven't just selected the wrong command on your word processor though).

There's nothing you can do to prevent a memory fault developing, but the good news is that such problems aren't really all that frequent. Memory chips themselves are cheap

(£2.50 each), but rebuilding the memory constitutes replacing these chips on the main circuit board – a rather fiddly operation to get just so, requiring a steady hand and an inordinate amount of patience.

Unsurprisingly, this is also a very expensive repair, although how much you pay depends largely on the severity of the damage. On average, you can expect to fork out something like £75.00 and that is exclusive of VAT.

# New PCW software from ARNOR

## Word Processing

### PROTEXT FILER - New Release! £24.95

This invaluable program will keep your address lists or other datafiles in good order. Includes: datafile management from within Protext; extremely flexible file sorting program; label printing and mailmerging using the datafiles. Send SAE for full details.

### PROTEXT OFFICE - New Release! £34.95

Invoice printing program as used by Arnor. Easily configurable for your own requirements. Works from within Protext. Produces invoices/credit notes/delivery notes/statements. Includes Protext Filer. Send SAE for full details.

### PROTEXT Word Processor £59.95

Protext is now firmly established as the alternative to Locoscript.

All the features you would expect from a good word processor - many text editing commands, print commands, spell checking and mailmerging. The refinement and thought that has been put into the program - logical keystrokes and commands, clear layout, speed and power ... all go towards making Protext Ideal for the novice or the experienced user.

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- \* Word count \* Delete feature \* Move/copy/delete/print blocks of text \*
- \* Box manipulation \* Configuration \* Personal dictionaries \*
- \* Exec files \* Two file editing \* Keyboard macros \* File conversion \*
- \* Comprehensive Find & Replace \* Foreign languages and accents \*
- \* Program editing mode \* Proportional printing, right justified \*
- \* Conditional printing and loop constructs \* Print any number of copies \*
- \* Works with any printer \* Calculator \* Print labels \*
- \* Use the maths/string functions to produce personalised invoices etc \*

#### New version 2.2

- \* Compatible with PCW 9512 \* Enhanced spelling checker - larger dictionaries, dictionary on drive M or on program disc \*
- \* Many improvements based on customer feedback \*
- (Upgrade from earlier versions £20.00, please return original disc)

"Protext deserves to be the system by which all other word processors are judged ... a superb product." YOUR COMPUTER

"The great strength of this package is its ease of use" CMTA

"Protext is the solution to all Locoscript's drawbacks" PCW

"Makes Locoscript look like a snail" 8000 PLUS

"Simply the best word processing program to date for the PCW ... Locoscript is effectively dead" PUTTING YOUR AMSTRAD TO WORK

### PROSPELL Spelling Checker £29.95

Typing and spelling errors are simple to make and frustrating to miss. But by using Prospell, you can produce documents that are error-free. Prospell is an automatic spelling checker that points out any odd words or dubious spellings.

- \* Works with Locoscript 1 and 2, WordStar or any ASCII file \*
- \* 33000 words \* room for thousands more \* up to 2000 words/min \*
- \* Find words and anagrams - Ideal for crosswords \*

#### New version 4.1

- \* Compatible with PCW 9512 \* Dictionary on any disc/driver incl. M \*
- (Upgrade from earlier versions £15.00, please return original disc)

"Anyone looking for a spelling checker need look no further" AU

### POCKET PROTEXT new low price! £29.95

Budget price version of Protext without spelling checker, mail merge and box mode. Now compatible with PCW9512.

"Just as powerful as the full Protext and at a very attractive price" 8000 PLUS

## CP/M Programming

### BCPL new low price! £24.95

Flexible, fast, general purpose programming language. Extensive set of I/O libraries including access to CP/M routines. Example source files supplied, including full screen editor and all the libraries. 60 page manual covers the language and gives details of the libraries.

"Easy to use, yet both flexible and powerful" CMTA

"Amor's clear, concise manual will have you programming confidently very rapidly" AMSTRAD ACTION

### C £49.95

Complete C development system now available at new low price

- Optimising compiler - Full implementation of K&R standard -
- Floating point arithmetic - 32 and 16 bit integer arithmetic -
- I/O and maths libraries - Conditional compilation - File inclusion -
- Macros - Linker accepts C and assembler (with Maxam II)
- Stand alone generator produces COM files
- \* Protext compatible editor: \* - Fast and easy to use - Two file editing -
- On screen help - Fully configurable - Powerful find and replace -
- Keyboard macros - Exec files - Compile directly from editor -

"Streets ahead in terms of programming power" AMSTRAD ACTION

"In typical Amor fashion, they've taken their time and got it right" AMSTRAD COMPUTER USER

### MAXAM II £49.95

Complete CP/M machine code development system at new low price

- \* Macro assembler \* nested conditional assembly \* file inclusion \*
- \* textual substitution of macro parameters \* repeat loops \*
- \* Full expression evaluation \* Error listing to screen/file/printer \*
- \* 8080 mode \* Linking facility \* Create object files for use with C \*
- Window based monitor, with:
- \* line assembler \* disassembler \* memory editor \* find string \* relocate
- \* move memory \* compare memory \* fill memory \* bank switching \*
- \* symbolic debugger \* single stepping \* set memory limits for stepping
- \* stack checking \* conditional breakpoints \* trace mode \* edit registers
- \* Editor is program mode of Protext (as for C, above) \*

"Maxam II - now the best gets even better" CMTA CPC

"Maxam II is stunning ... the most complete and competent programming package around. Simple, speedy and sophisticated" AMSTRAD ACTION

### Special Offer:

Buy one of Maxam II or C for £49.95, and the other can be yours for just £20. Remember that Maxam II and C can be used together to produce hybrid C/assembler programs.

#### SUMMARY OF PRICES:

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Pocket Protext	£29.95	C	£49.95
Protext Filer	£24.95	Maxam II and C	£69.95
Protext Office	£34.95	BCPL	£24.95
Protext Tutorial disc	£5.00	Prowort (German Protext)	£59.95
Protext	£29.95	Protext (Atari ST)	£79.95
		Protext (IBM PC compatibles)	£59.95

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eager to help the individual PCW enthusiast as well as larger corporations. Anyone PCW-dependent – small businesses, novel writers or whatever – ought to consider it.

SWM Associates handle the full range of IBM and Amstrad computer repairs. Not surprisingly, therefore, they prefer to help bigger companies who have a reasonably large number of machines on their premises, rather than the individual, home computer buff. They, too, operate on a maintenance contract system, charging 10% of the machines' purchase price for one year's contract. Steve Mansfield, the man behind SWM Associates, told us that what they aim to do is to keep very close records of a company's machines and their various setups. Should anything go wrong with one of the machines, they'll send out a replacement machine until it's repaired and cut down on overall 'downtime' (essential PCW jargon, this). Of course, if the machine in question is still under their warranty, then they will simply replace it anyway.

Included in the year's service contract, are regular six-monthly visits during which a series of simple, precautionary diagnostic tests are carried out on the machines. This simply involves inserting a disc and typing in GO. This tests out every component in the machine, so that any problems that may be spotted can be nipped in the bud. Printers, which are notorious passive dust collectors, are also invigorated during these visits simply by squirting compressed air into various orifices.

## Balance of power

JSD Seawave Services from Taunton, meanwhile, help PCW owners who have problems with their power supplies. If your electricity supply is repeatedly getting cut off, this will spell disaster for painstakingly compiled databases, for example. This company specialises, therefore, in setting up back-up power supplies. For the PCW 8256, an uninterrupted back-up supply will cost somewhere in the region of £230.00. Being so expensive, there isn't really a very large market for them. But if you frequently run the risk of losing precious data or harbouring corrupted discs in your box, you may well feel like bearing this particular solution in mind. In addition to this, if you're thinking of taking to the highways with your PCW and will need to be running it on the hoof (for the purpose of on-the-spot invoicing, for example) JSD Seawave Services supply the inverters which will make running the machine on a 12 volt system possible.

Repair companies nearly always have a standard labour charge, which is £30.00 plus VAT for any repairs that they carry out outside a maintenance contract situation. They will charge for the cost of the part to be replaced on top of that, so it's not that cheap. But, like we said before, it isn't that common for things to go wrong and when they do it probably won't be your fault anyway. The bottom line is, provided you treat your machine with respect and use your common sense, your PCW will reward you with years of faithful service.

EXIT

## DIY note 4

If your printer platen is getting shiny and paper seems to be slipping as it's fed through, try wiping it with a cloth dampened with meths. A lot of black gunge will come off and after a few wipes your platen should be back to its gripping, rubbery self.

## Directory

This is a list of companies which do Amstrad PCW repairs regardless of where you bought the machine in the first place. If your PCW is still under guarantee, then, of course, you'd be better off taking it back to the dealer you bought it from. It will take that much longer however. You can get new parts by mail order but this will involve getting the old

part replaced – ie. removing the old disc drive yourself, sending it to the dealer, and fitting the new one when it arrives. You can't get new parts, for example a printer, without sending the old back (though you can buy extra drives). Repair costs don't usually tend to vary too much from company to company.

**Aeon Computer House:** 46 Christchurch Road, Oxtou, Birkenhead, Wirral  
Tel: 051 652 9196/7

**ACC Computer Services, Water Street,** Abergele, Clwyd  
Tel: 0745 826234/825082

**Cada System Support Services:** 253 Green Street, Enfield, Middlesex  
Tel: 01 804 8440/01 803 3880/0855 506466

**Circuit Surgery:** 4 The Parade, Mead Place, W. Croydon, Surrey  
Tel: 01 860 0705

**Comsoft:** Coldstream Computer Centre, 48 Duke Street, Coldstream, Berwickshire  
Tel: 0890 2979

**Comtec Systems:** 58a Wellingborough Road, Northampton  
Tel: 0604 24463/21763

**Danum Computer Systems:** (From 1.6.88) Eltech Services Group, Campus Road, Lister Hills Science Park, Bradford  
Tel: 0274 722512

**Dictaphone:** Regents Square House, The Parade, Leamington Spa  
Tel: 0926 2914

**Dimension Computers Ltd:** 27/29 High Street, Leicester  
Tel: 0533 517479/21874

**GSA Computer Repairs:** 57 Winchester Way, Scawsby, Doncaster  
Tel: 0302 783527

**HardSoft International:** 1a The Square, Sawbridgeworth, Herts  
Tel: 0279 726488/406

**MicroSnips:** 37 Seaview Road, Wallasey, Merseyside  
Tel: 051 630 3013

**Microtech:** Fountain Street, off Bolton Road, Bury, Lancs  
Tel: 061 797 6419

**Roma Electronics:** 7B Brook Lane, Warsash, Southampton  
Tel: 04895 84905

**RSC Ltd:** 75 Queens Road, Watford  
Tel: 0923 243301

**Screen Scene:** St. Georges Road, Cheltenham.  
Tel: 0242 528979

**Software Plus:** Greenpark Station, Bath  
Tel: 0225 448855

**Suredata Repairs:** Dept YA, Unit 6, Stanley House, Stanley Ave, Wembley, Middx  
Tel: 01 902 5218

**SWM Associates:** Riverside Waterhouses, Stoke-on-Trent  
Tel: 05386 635

**4th Party Maintenance Company:** Spa House, 52 Richmond Hill, Richmond  
Tel: 01 744 2122

**PCW Power Supply Problems**  
**JSD Seawave Services:** 8 Fouracres Close, Taunton  
Tel: 0823 271614

**Ribbon Reinking**  
**Aladdin:** Dept AW, 4 Hurbur Crescent, Eyemouth, Berwicks  
Tel: 08907 50965

**Caspeil Computer Services,** Dept 8K, Freepost, Poole, Dorset, BH15 1BR

# TAKE THREE

Alec Rae takes a look at three new accounts packages

When people discover that they have more than a word processor in their PCW, one of the first ideas they usually come up with is to use it to look after their finances (either personal or business). But where to start? There is probably a wider range of accounts programs than any other type of software for the PCW. So is there room for more?

## BOOK-KEEPING AND ACCOUNTS

£57.50 (with invoicing £57.50) (with invoicing and stock control £80.50) ● Manx Tapes (0624 813071) ● All PCWs

Probably the greatest problem for anyone buying a business accounts program is finding one at the correct level for their own needs and expertise. Someone who is used to running business accounts on a manual system might want a system that is close to the method they use just now. Others will be keen to make use of all the processing power of the computer to make their life easy.

This is certainly the choice facing prospective buyers of NewStar's Small Business Accounts or Manx Tapes' Book-keeping and Accounts.

The Manx Tapes offering is described in its publicity as a "no nonsense traditional style double entry book-keeping" and it certainly lives up to that description. People weaned on traditional double entry book-keeping should feel quite at home in this environment.

This does mean that not too much effort is spent on beautifying the screen displays (most of it no-frills text). There are times when screen prompts disappear from the screen a bit quicker than comfortable.

### Suck it and see

One interesting feature offered by the company is a 'Try It

and See' demonstration disc. The disc costing only £5 comes with the whole system ready to use (with 200 example accounts and entries for a typical month). All that is missing is the files you need to customise the system to suit your own business. This disc also acts as invaluable introduction to the program as the full working program comes as a completely blank shell – quite intimidating if you have no idea of how the program works in practice.

You set the system up to suit yourself with your customers and suppliers accounts all on disc. Unlike many programs of this kind it doesn't set up basic default accounts so you need a fair idea of what you are trying to achieve when you start.

What is missing, perhaps, is a little bit of extra help along the way. A prompt to help you remember the account numbers would have been useful and more helpful screen prompts (including onscreen instructions on how to abort operations when things go wrong) would have been appreciated. Details like always having to press [R] every time you want to move to the next screen seem a bit unnecessary.

Having said that it only takes a single sheet of instructions to grasp the main points of operation. And it has a fair amount of inbuilt flexibility. You can study ledgers in normal or historic modes, in sequence or at random. You can produce a credit control analysis, a trial balance or even profit and loss calculations for the period.

## SMALL BUSINESS ACCOUNTS

£69.95 ● NewStar (0277 220573) ● All PCWs

Compared to Bookkeeping and Accounts, NewStar's Small Business Accounts seems positively gimmicky. The designers have used virtually every trick available to the split screen format to give you prompts and to lead you through double entry book-keeping without pain.

The manual leads you into using the program by getting you to enter a quite complicated demonstration file. This is worthwhile. Once you know the intimate details of Carcare

## BOOK-KEEPING AND ACCOUNTS

### PLUSES

- No frills, traditional double entry book-keeping

### MINUSES

- Doesn't use PCW to the full
- Screen prompts sometimes unhelpful
- Written in BASIC so screen update sluggish

RANGE OF FEATURES ■■■■  
EASE OF USE ■■■■

PERFORMANCE ■■■■  
DOCUMENTATION ■■■■

8000 PLUS VALUE VERDICT ■■■■



Lid you are in good shape to use all the features of the program to look after your own accounts.

Setting up the system for yourself can take a bit of time but once it is on disc you have a fair amount of power available. The idea is that every time you type in an entry on the left hand side of the screen you have the choice of accounts it should go into on the right.

While you are learning the system you can page through the long list. Once you are au fait with the setup you can just type in the correct number from memory. Being a double entry system you are then led through the process of placing the balancing entry and checks to see that the figures match up before you leave.

## VAT's the way to do it

It handles VAT in a slick, easy manner and provides good audit trail facilities, with search facilities to find random entries or allowing you to browse at your leisure. Added to this you have facilities to produce trial balances and profit and loss calculations with the minimum of effort.

It divides your accounts up into a possible 10 groups and there are a maximum 150 accounts available. A few basic default accounts are there but there is plenty of scope for adapting to your own system.

While the demonstration file method is handy the thorough manual is marred by the fact that it is the same one provided for the PC version of the program – and in certain cases the instructions do not match up. While there is a couple of sheets of alterations provided for PCW users it is confusing to have to skip great swathes of text that deal with budgets – a feature not available on the PCW. There are also minor irritations, like the way you have to delete some default entries at an input before you can enter the correct response.

Still, it is one of the best attempts to bring the mysterious world of double entry book-keeping to the uninitiated PCW user.

## CHECK ACCOUNTS PROGRAM

£9.95 • M.E. Hodges (03722 75053)

### • All PCWs

If you have lots of money saved in various bank and building society accounts you may be interested in Check Accounts Program. And if you have a massive overdraft spread over several bank accounts you too may well find it worth while.

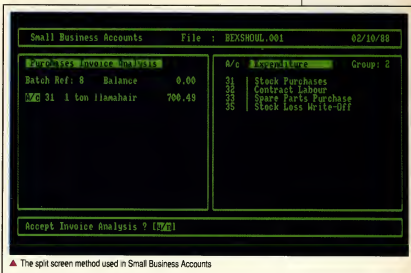
While there are other programs that keep track of your personal finances this program adds the extra detail that it allows you to make forecasts and to keep track of interest.

It is a simple enough program to use. Written in Mallard Basic and it uses a system of menus not unlike one given in a listing in a back copy of 8000 Plus. However it is more robust than many Mallard programs and the menus do take you through even the most complex routines reasonably easily.

The program can handle up to four accounts and the disc comes with these already packed with personal information about the finances of some complete strangers (or as we call it in the trade 'demonstration files'). This does help you discover the way the program works far more successfully than the most thorough manual. Just browse through these files seeing how people with money would use the program and then clear the balances and enter details of your own overdraft.

## As time goes by

The basic purpose of the program is to keep track of ingoings and outpourings from all your account and to keep track of up to 99 automatic standing order transactions in a year.



▲ The split screen method used in Small Business Accounts

Where this program goes further is to keep track of interest due to you (on savings accounts) or that you will have to pay (on an overdraft). Each time you start the program it works out the up to date situation.

These rates can be set easily on all the accounts and you even have the option of banded interest, for all those fancy building society schemes where you get a higher rate for a larger deposit. You can set up to seven interest level. As your balance reaches each peak the rate changes. At the correct time you can add the interest earned to your total.

Another way the program marks the passing in time is in a special forecast facility which looks at spending levels in the last month and projects them for the next month. If you have a special payment which will only apply to one month you can choose not to have this taken into account in the forecast. This sounds a great idea but you would need to be pretty regular in your habits before this meant too much.

The analysis also tells you the maximum and minimum balances in the last month. That could be depressing reading. It even prints out statements with the last 38 transactions (definitely depressing).

The final 'time' gimmick is that you can jump to any time (in your own PCW time capsule) and work out how much interest you have grossed in the meantime. But be warned. It does take a little while to do this so don't pick 50 years from now or you might lose interest.

EXIT

## SMALL BUSINESS ACCOUNTS

### PLUSES

- Excellent screen prompts
- Good demonstration files
- One of the easiest double entry systems for the beginner to get to grips with

### MINUSES

- Manual is really for PC

RANGE OF FEATURES ■■■■■  
EASE OF USE ■■■■■

PERFORMANCE ■■■■■  
DOCUMENTATION ■■■■■

8000 PLUS VALUE VERDICT ■■■■■

## CHECK ACCOUNTS PROGRAM

### PLUSES

- Easy to learn from demonstration files
- Interesting use of time scales

### MINUSES

- Relatively slow screen update
- Only for the really organised

RANGE OF FEATURES ■■■■■  
EASE OF USE ■■■■■

PERFORMANCE ■■■■■  
DOCUMENTATION ■■■■■

8000 PLUS VALUE VERDICT ■■■■■

Simple!  
8000 Plus



Welcome



Welcome

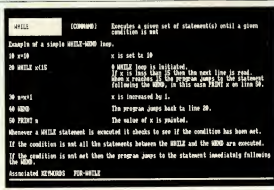
Helpmate FOR  
ALL PCW OWNERS

**JUMBO**

Anyone who has dabbled with Mallard BASIC will have come across the moment of truth when they just can't remember – what is the difference between SPACES and SPC, which number is which after MIDS, or even, how do you switch on a switched-off cursor blob?? Maybe there is someone who can remember every command in Mallard but they certainly don't work for 8000 Plus.

Now, since the launch of the Jumbo disc you have two choices. 1) You can use the old method of spending 10 minutes looking for the BASIC method, another five minutes finding the right command over 15 minutes discovering you're still not totally sure of the syntax and a final 20 minutes working out how it works by trial and error. By which time of course you have probably forgotten what you wanted to do in the first place. Or.

2) Use Jumbo and find out what the command does in minutes. Jumbo is simply a disc with nearly 200 files listing every command in BASIC including a few you haven't even heard of. The idea is that when you get stuck for the right command or syntax you just call up the directory (type d). This is in effect a list of file names.



If you want to find out what Fetchkey\$ does you check the list and find that the file with the details on this command are kept in a file name FKEY (you just type in the capital letters from the name Fetchkey\$ becomes FKEY). Then just write type fkey and the file appears.

It has all the Jetsam commands, a file listing all the escape codes for useful functions (everything from reversing the screen to defining a window) and a file with the full ASCII code and character set. There is also a page of keywords on various topics and a run-down on the bit-wise operators (AND, OR etc). The advantage is you call these up without affecting your working on the program.

The idea is basically so simple you feel as if you could do it yourself. There is no program or anything too clever – it is simply the basic (or BASIC) facts simply laid out with

an example where suitable (by far the best way to understand them). A simple way to learn BASIC

8000 Plus issue 20 May 1988

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To run the system you just switch on, load MONEY MANAGER PLUS, and select a data file to be loaded from your disc into the system. You can then make new entries in any order that suits you (or amend existing entries). You can reconcile entries against bank statements received. You can produce your own statements and reports (including graphical charts) with amazing variety and selectivity to answer any questions you might have about your current financial situation. You then save the data file for the next time you need to use it. You may have any number of separate data files (or sets of accounts) covering several years, and store several on one disc. When required, a 12-month data file can be rolled forward by a month at a time.



- 12 months accounts per file, 300 entries per month
- Up to 9 user-defined accounts (banks, cash, credit cards etc.)
- Up to 50 user-defined classes of income/expenditure
- Optional reference (up to 6 characters) for each entry
- Your own descriptive text (up to 18 characters) for each entry
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- Correct incorrect entries at any time
- Standing orders/standing entries
- Sort entries into date order when required
- Detailed statements for any range of months
- VAT reports in detail and in VAT return format
- Monthly reports for each class of transaction
- Reports showing activity in each account

- Consolidated class group reports
- Account balances month by month
- Bar charts for up to 12 categories of entry
- Pie charts for up to 12 categories of entry (PC)
- Facility to search through accounts for lost items
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- Two sets of practice data
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COMPETITION!

# MAKE SPACE

Win two (yes, TWO) square metres of *completely* empty space!

Any PCW owner will testify to the insidious spread of the machine and its entourage round the study. Before you know where you are you've got a table full of monitor and keyboard, whole drawerfuls of discs and a printer submerged in a plethora of paper. The answer is to buy one of those work stations – purpose built desks which accommodate your keyboard, printer, monitor and all the other stuff. The only problem is the price, which for most workstations is in three figures, most of them rather big ones.

However, the ten lucky winners of our mind stretching competition will get a Com-Stax (usual price £29.95) in the colour of their choice – red, white or black. This is a very stylish and thoughtfully designed stand for your PCW – the keyboard and monitor sit neatly at the right angle and height for working while the printer goes on over the top of the monitor. There are suitable slots for the various comms and interface leads you might want to thread through to the monitor and it comes in both 8000 and 9512 versions.

It's sure to free at least two square metres of space in your study and looks very hi-tech too. You'll still have to find somewhere to put your discs and paper, but then you can't have everything.

Below is the floor plan of a

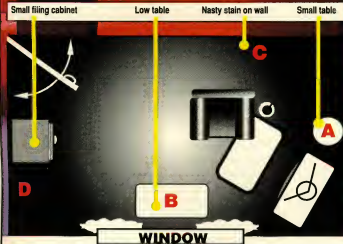
typical PCW owner's study, without a few vital items such as coffee maker, PCW (on its Com-Stax stand), bookcase etc. Four possible locations of these items in the study have been labelled A to D, and the items themselves are numbered 1 to 4. All you have to do is use your skill and judgement to write down where the best place for each item is – if, for example, you think that the bookcase should go in front of the window, write B-1, and so on.

Remember that telephones can corrupt your discs if they are placed too close to them (a phone ringing on top of a disc is a quick way to lose address marks) and that electrical equipment often doesn't work very well if put too close to a PCW.

When you've done that, write your entry on a postcard or on the back of a sealed envelope and address it to: *Com-Stax Competition, 8000 Plus, 4 Queen St, Bath, BA1 1EJ.*

Remember to state whether you have a 9512 or 8000 series machine and say which colour you'd prefer – white, red or black. The first ten correct entries picked out of the editorial baseball cap on Friday, 5th August, will receive a Com-Stax.

Usual rules apply: no multiple entries and the decision of the judges, however arbitrary, is final. No correspondence will be entered into.



1 Bookcase

3 Telephone

2 PCW

4 Coffee maker

# HELLO OFFICER

Turn Protex into a database and invoice generator with Arnor's new package

Protex is an excellent word processor and the ideal 'free text' database; for writers and researchers who need to collate articles or reports from vast repositories of text it's perfect. But what about those interminable name-address-and-details lists that pervade everyone's working and leisure life?

Using Protex's stored commands, almost a programming language in itself, you can write your own database programs and invoice generators... if you have the time. Now Arnor, makers of Protex, have done the job for you.

## The other Office

If you just want a database which can work in a word processor, rather than a word processor which can also be a database, have a look at Mini Office. You can use data from its database in mailshots in its word processor. However there's no import/export so all data must be created and used exclusively within Mini Office.

## PROTEXT FILER

£24.95 ● Arnor (0733 239011) ● All PCs

Protex is a very powerful word processing tool. Using its 'exec' files – a series of commands you can put into effect at a stroke – you can, for example, number all the paragraphs in a contract at a stroke; with the stored commands inside a document, you can write routines to calculate invoices and maintain databases from a combination of information typed in at the keyboard and taken from disc, say a file of customers, the results being sent to screen, disc or printer. (Mathematicians will be excited to learn that programs can be written to calculate prime numbers if you really want.)

However, most people are so busy they may well lack the time required to learn all its features. Arnor have therefore knocked up a couple of programs for all Protex users: Filer, which adds database features to Protex, and Office, which includes all Filer's features and generates invoices, credit notes and statements, written entirely with Protex commands and 'exec' files.

## Menu love to hate

On typing **x** **f**m you get the file manager menu where you have a similar range of options a normal database program would give you – start a new database, add records, edit the structure, sort and select records, etc. These can all be done

on your main file, a file of selected items, or the 'update' file which holds the recent additions.

The difference with a normal database is that your data is recorded as a normal Protex file and can be edited as such. That name-and-address file you've been using for mailshots can now be used as a database, for example.

Initialising a new file gets you to set up a number of fields – the number can be fixed or variable (to leave scope for addresses of varying lengths, for example). Unlike most databases you don't have to specify whether this field is to be a string and that one a number.

When adding to a database, the entries go into a special 'NEW' file and to incorporate them into your main file you *must* then use the 'update' option from the main menu. Editing or adding items in your database can be done in Protex, using [FIND] to find the relevant item.

## Selection procedure

The usual database functions of finding single records and selecting groups of records is catered for, both of these coming from the main menu. Finding a single record even loads it into a file for you and puts in block markers ready for pasting across to another file. Selection can be done on a variety of bases – A or B, A and B or C, etc. etc. So, you can root out all the music in your collection which is on CD or cassette, all your records which are either Beethoven or Stockhausen, and so on. The selected items are written to a file 'SEL' which you can then manipulate as a normal Protex file. You may have a few problems with selecting on numbers (for example, all salaries over ten thousand, as 2 is regarded as 'bigger' than 1000, because they're compared as strings, not numbers. They'll be sorted OK, though.)

Mail merge functions are provided, allowing you to print out from your name-and-address lists a variety of label formats – one, two, or three across. You specify the number of lines per label and so on. You can, of course, print out normal name-and-address files on labels in Protex from templates given in the manual; again, it's a time saver rather than a radical new feature. The ability to print two or three

## PROTEXT FILER PLUSES

Easy to use once you learn it  
Familiar Protex environment  
Good sorting facilities and name handling  
Can use Protex/database in parallel  
Import/export/print formats no problem

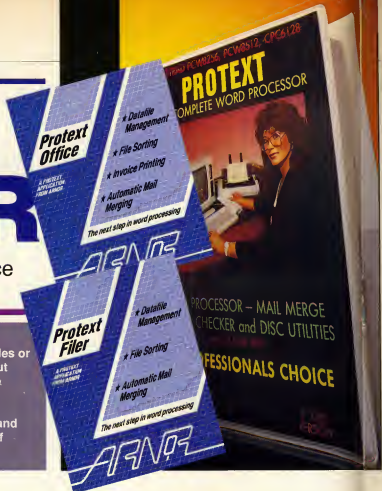
## MINUSES

No calculation facilities  
Selection facilities a bit crude  
If you're familiar with Protex you can probably mimic a database yourself

RANGE OF FEATURES ■■■■  
PERFORMANCE ■■■■

EASE OF USE ■■■■  
DOCUMENTATION ■■■■

8000 PLUS VALUE VERDICT ■■■■





# ASSEMBLY LINES

Steve Patient tries out Pyradev's new assembler package for the PCW

## The opposition

There are a number of very good public domain assemblers and disassemblers virtually free - have a look around bulletin boards. The two other leading commercial assembly packages for the PCW are Maxam II (£49.95) from Amnor (0733 239011) and Devpac (£39.95) from HSoft (0525 718181).

## PYRADEV PLUS

£19.50 • Pyramid (PO Box 765, Maidenhead, Berks) • All PCWs

Writing machine code is extremely easy; getting it assembled without errors is harder, and finding out why the machine locks up every time the program runs most difficult of all. Every useful development system must include programs to facilitate these activities, the editor, assembler and monitor.

At first I thought I'd put the disc in the wrong way round. The editor came up in the top left hand corner, a 25 line by 80 column display, but no, this was it. Pyramid assume you have such a screen and there is no installation. Then the editor locked up. The key presses it needs are not normally generated by the 8256 keyboard. To get it to work at all a key definition file must be run.

An editor which is pleasant to use is important, the Pyradev editor irritated me. I found it quirky (cursor keys do delete lines, for example). Internally the situation is even worse.

It expands tabs to spaces on input and then compresses the spaces to a hex FF character when writing the file with a second number depending on how many spaces there should be. This makes the files non-ASCII with a vengeance. You can save an 'uncompressed' file but the spaces necessary to format code nicely make it large, which is why good editors store tabs. Line ends are marked with ODH (carriage return) but not OAH (line feeds). Thus Pyradev files cannot be TYPED to the screen. If a file from a standard ASCII editor is loaded everything looks alright until you save it, then the editor locks up. The line feed characters kill it.

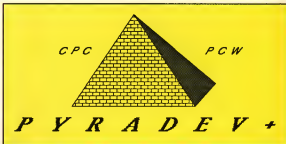
The manual suggests writing a program to filter your non Pyradev files and even provides skeleton code. I wrote one and it works but really it's one hassle too many. I use two public domain and one commercial editor and all of them allow some degree of user installation, including using all of the screen. Draw your own conclusions.

Z80 instructions and the manual provides mnemonics for them though it won't accept any instruction for the IX and IY registers without an index (IX+0), curious priorities. On the plus side it supports macros, which you know all about from using RMAC, anyone familiar with RMAC will feel at home with the requirements of the Pyradev assembler. It will produce standard Microsoft REL files which can be linked using the LINK.COM program supplied with the 8256; this is a big plus. REL files are produced by most good compilers allowing you to do the boring bits in C and the twiddly bits in assembler then link them all together. To use LINK you must leave the Pyradev environment; your keyboard is now a mess.

The monitor has all the things SID has but insists on cramming everything into four windows fitted into a 25 by 80 viewport. Since only one of these windows can be active at a time a lot of the information displayed is either irrelevant or misleading. The disassembler, for example, cannot show short routines in their entirety though it will write to disc.

It also requires the strange key responses so can't effectively be used alone. It works but suffers badly from featuritis. This and the busy screen make mistakes easy, then everything locks up again. You now have to load all the files back in and run SETKEYS. A command line would have been simpler and allowed more information on the screen.

This Z80 program development package started life on the Amstrad CPC's under Amdos and no doubt Pyradev proved the bees' knees for CPC programmers, but CP/M has been around a lot longer and some very sophisticated packages are available. One of the best comes with the machine. All you need is a good editor.



## PYRADEV PLUS

### PLUSES

- Produces standard REL files
- Potentially powerful packages

### MINUSES

- Problems with keyboard configuration
- Bad implementation for PCW

RANGE OF FEATURES ■■■■■  
EASE OF USE ■■■■■

PERFORMANCE ■■■■■  
DOCUMENTATION ■■■■■

8000 PLUS VALUE VERDICT ■■■■■

## Freebie note

Of course, you've got everything you need to write machine code programs for free on your CP/M discs - RMAC, LINK and so on. The problem is finding documentation on how to write in the 8080 machine code they work it. There's nothing in your CP/M manual!

## Hard lines

The assembler accepts Zilog mnemonics from Pyradev editor files or standard ASCII files but WILL NOT accept tabs as a separator for fields. All the CP/M code ever written is full of tabs and line feeds and they all have to go. Hard luck. Symbol files can be generated to disc but not PRN files which have to go to the printer. Assembly errors can be sent to the printer without a PRN file. No particular filetype is required and output files default to COM.

Interestingly, the assembler accepts the undocumented

## BIOS fear

Pyradex is machine dependent, using BIOS calls for speed and a lot of screen handling tricks so 'someone' knew what they were doing when they adapted it for the 6128. Assuming they have the source do they have anyone who can count up to 31?

Since Pyradex is now aimed at the 8256 machines re-assembling it to use the keyboard as found would not have come amiss. Pyramid recognise the problem since they provide a program to display the hex code of a keypress on screen. Clearly they intend the buyer to hack the programs replacing key codes with the appropriate values!

You shouldn't have to do that or tweak the assembler into accepting tabs as separators, standard under CP/M. In my opinion Pyramid are offering a powerful suite of programs spoiled by a shoddy implementation.

EX1

# MASTERFILE 8000

FOR ALL AMSTRAD PCW COMPUTERS

MASTERFILE 8000, the subject of so many enquiries, is now available.

MASTERFILE 8000 is a totally new database product. While drawing on the best features of the CPC versions, it has been designed specifically for the PCW range. The resulting combination of control and power is a delight to use.

Other products offer a choice between fast but limited-capacity RAM files, and large-capacity but cumbersome fixed-length, direct-access disc files. MASTERFILE 8000 and the PCW RAM disc combine to offer high capacity with fast access to variable-length data. File capacity is limited only by the size of your RAM disc.

A MASTERFILE hallmark is the provision of multiple, user-designed display formats. This flexibility remains, but now it's even easier. With MASTERFILE 8000 you design your formats "live"; no more questionnaires, just move your format effects around the screen using the cursor keys!

Record updating is even easier than before — just steer your cursor to any field on the screen and then insert/erase/alter as required.

Special options are provided for handling dates and surnames, and column totals can be generated.

All screen work is done graphically — and hence we offer unique panel, box, and ruled line options. Choose the line spacing at pixel resolution — you will be amazed how much clearer 9-pixel lines are than the usual 8-pixels. (Study the picture.) And all this faster than CP/M normally lets you paint the screen! PCW printer functions, under menu control, are provided.

Any file can make RELATIONAL references to up to EIGHT read-only keyed files, the linkage being effected purely by the use of matching file and data names.

You can import/merge ASCII files (e.g. from MASTERFILE III), or export any data (e.g. to a word-processor), and merge files. For keyed files this is a true merge, not just an append operation. By virtue of export and re-import you can make a copy of a file in another key sequence. New data fields can be added at any time.

File searches combine flexibility with speed. (MASTERFILE 8000 usually waits for you, not the other way around.) You can even assign subsets of a file into one or more of seven pigeon-holes for subsequent reference or further manipulation.

Megalonerate Ltd			
Sales Contact : Martin Holmes		Phone : 045 454321	
Telephone : 045 454321		Fax : 045 454321	
References : MCL		Date of last order : 14 Aug 86	
Value to date : £21,455.00		Price on VAT	
Def	Maker	Model	Specification
CM01	Sporn	2201	10000 10000 10000
CM02	Sporn	2201	10000 10000 10000
CM03	Sporn	2201	10000 10000 10000
CM04	Sporn	2201	10000 10000 10000
CM05	Sporn	2201	10000 10000 10000
CM06	Sporn	2201	10000 10000 10000
CM07	Sporn	2201	10000 10000 10000
CM08	Sporn	2201	10000 10000 10000
CM09	Sporn	2201	10000 10000 10000
CM10	Sporn	2201	10000 10000 10000
CM11	Sporn	2201	10000 10000 10000
CM12	Sporn	2201	10000 10000 10000
CM13	Sporn	2201	10000 10000 10000
CM14	Sporn	2201	10000 10000 10000
CM15	Sporn	2201	10000 10000 10000
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CM29	Sporn	2201	10000 10000 10000
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CM93	Sporn	2201	10000 10000 10000
CM94	Sporn	2201	10000 10000 10000
CM95	Sporn	2201	10000 10000 10000
CM96	Sporn	2201	10000 10000 10000
CM97	Sporn	2201	10000 10000 10000
CM98	Sporn	2201	10000 10000 10000
CM99	Sporn	2201	10000 10000 10000
CM100	Sporn	2201	10000 10000 10000

Customer Details and Invoices			
British United Freight		Tel: 0452 454321	
451 Western Avenue		Contact: Mike	
Gloucester		Ref: BIP	
GL5 3JH		Date: 14 Aug 86	
Invoice	Tax point	Amount	Date paid
12044	20 Aug 87	£225.00	02 Oct 87
12051	20 Aug 87	£225.00	02 Oct 87
12059	01 Oct 87	£225.00	---
12052	21 Oct 87	£225.00	---
12052	02 Nov 87	£1,044.50	---
12050	10 Nov 87	£355.05	---
12763	10 Nov 87	£200.00	---
12762	11 Nov 87	£225.00	---
12025	04 Dec 87	£803.55	04 Dec 87
Totals:		£3,253.50	Cash with order
Date of invoice			
Invoice 12044, 12051, 12059, 12052, 12050, 12763, 12762, 12025			

FIELD-TO-FIELD CALCULATION is available, using any mixture of terms and arithmetic operators + - \* / ( ) .

MASTERFILE 8000 is totally menu-driven, fully machine-coded, and comes with example files and a detailed manual. We claim (modestly) that you will not find another filing system with such power, flexibility, and friendliness.

MASTERFILE 8000 costs £49.95 including VAT and P&P to anywhere in Europe. Elsewhere please add 20% for air-mail service. ACCESS/VISA/MASTERCARD orders are welcome, written or telephoned, quoting card expiry date. Make cheques payable to "Campbell Systems".

Our normal response is return of post, 1st class. CAMPBELL SYSTEMS (Dept 8PL)  
7 Station Road, EPPING, Essex CM16 4HA,  
England. Tel: (0378) 77762/3

Keyed files are maintained automatically in key sequence, with never any need to sort. You can have unkeyed files too, where records can be inserted at any point in the file.

# MIND YOUR LANGUAGE

Every PCW has Mallard BASIC. But what about other computer languages? Steve Patient takes you through some of them...

Languages come in three flavours: Interpreters (like Mallard BASIC), semi-compilers, which you compile to an intermediate code needing an extra support routine when you run the program, and true compilers that produce COM files which run directly, like PIP *et al.*

Interpreters are the easiest to work with while true compilers produce the fastest code. Semi-compilers usually offer the most built-in functions.

**W**riting programs is fun. Learning new programming languages increases the fun. But is there anything you can't do in BASIC anyway? Well no, but some things are better done in other languages. Just as French is a language of romance, Russian is good for writing long depressing novels, and English has evolved for apologising, so different computer languages have their various strengths and weaknesses.

## ALGOL

(ALGOritmic Language)

BASIC evolved from ALGOL and is similar in many ways, though the original probably has greater strengths in recursion. Originally a mainframe language, there's a version O Algol 60 in the public domain, (Volume 28, CP/M User Group library) called Algol/M. Written in the mid-seventies at the Naval Postgraduate School in America, it is similar to BASIC-E. It works as a semi-compiler with a run-time interpreter of only 14K and is 'full' of 'quotes' and 'semi-colons'; specifically designed for CP/M, it is a complete and serious implementation.

## BASIC

(Beginners All-purpose Symbolic Instruction Code)

Why bother to include this when PCW owners already have it? Because there are so many versions, many in the public domain, including the famous BASIC-E. This is a semi-compiler written by Gary Kildall, the man who wrote CP/M. (Volume 5, CP/M User Group library: documentation from Comcen Microcomputers (45-46 Wychtree Street, Morriston, Swansea SA6 8EX)

A true compiler, like CB-80, will compile programs written in BASIC-E. Anyone with a sense of history, and humour, should give it a try. An upgraded commercial version is also available, called CBASIC.

## BCPL

(or Basic Computer Programming Language, or maybe big, cuddly programmers love it)

Well, that's quite enough about BCPL.

## C

(so called simply because it was written after B)

This one - written by Brian Kernighan and Dennis Ritchie

with the PDP-11 (a DEC Mini) in mind - is, definitely, flavour of the month. Just about everybody has a version of it, but only three people in the world actually write programs in it.

It was originally written for the Unix environment (a sort of very large computer CP/M) and its strength lies in its power and flexibility. The price is that C programs can be so concise as to be totally unintelligible and look as if they've been written in Martian. Even C programmers don't try and decipher one another's codes. There's no standard way of laying out a problem, so everyone tends to do their own thing. It is only one step removed from assembler.

C compilers generally perform few checks and certainly none on the logic of programs. Bugs can be both subtle and elusive, while the program code is always couched in terms of complete incomprehensibility.

But it gives easy access to the juicy bits of the operating system and being able to write in C always generates a certain amount of respect. Good C compilers are available at low cost, but go for one with floating point maths. HiSoft C would be perfect but hasn't; Amn's has. Small C, by Ron Cain, is in the public domain on Sig/M 224. It has floating point maths as well as transcendental (or as near to having them so that it makes no difference!) and the C source to the compiler.

C is liked by magazine writers because of its potential for puns.

## COBOL

(Common Business Oriented Language)

It is common in that almost everybody does it the same way. COBOL was designed to run on mainframes where it would do simple things to large amounts of data. One machine running a COBOL program replaced a building-full of clerks.

COBOL alone still comprises ninety per cent of all program code in the world. Compilers for CP/M 80 are expensive, but there is, a public domain COBOL semi-compiler on Sig/M 209. You'll need to read a book about it first, or you'll get nowhere fast.

COBOL is not for writing games. It is a data-handling language with a very precise, formal syntax. At first glance it looks like English, and once you've learnt it, is probably the easiest code to work through.



## FORTH

(No, not written after THIRD)

From the Algol family of languages, Forth embodies a slightly different approach to programming. It was originally developed by Charles Moore and Elizabeth Rather to control radio telescopes. More recently, it was used to program the animation sequences for Star Wars. FORTH comes with a core dictionary of words it already understands; new words can be constructed from these to extend the language in any

direction you choose – a process, not surprisingly, called 'extending'. These extensions can be saved in a library and loaded with the system. FORTH can quite often beat an ordinary compiler.

FORTH systems tend to provide complete development environments and will use Reverse Polish arithmetic, a stack based system common in scientific and engineering environments. (It's called Reverse Polish because the name of the Pole who invented it is unpronounceable.) It's different, powerful and, once mastered, totally addictive.

Learn it, and soon you won't be seen dead using algebraic languages, like Pascal or BASIC. As a taster there is one in the public domain on Sig/M 154, Forth 83, but be warned – it needs patching to work properly under CP/M Plus.

## FORTHAN

(If it doesn't stand for Formula Translator, it ought to).

The first true high level languages, written by IBM. It's the most standardised and powerful language for number-crunching. It has a very formal syntax and a great deal of power. The only proper input and output devices are a punchcard and a teletype machine.

Fortran programs look solid, sensible and have a hell of a lot of full stops in them. A true compiler, it produces stand-alone COM files. A chess program, written in Fortran, will automatically start cheating when it's losing (it will offer a draw first, and then crash!). This is not the fault of the language. Engineers and scientists still use it as a language of choice. Someone once said behind a veil of anonymity: 'I write all my critical routines in assembler and my comedy routines in Fortran.'

## LOGO

Developed as part of an American university project called 'Mathland', This is also supplied free with the PCW when you buy it – and is worth every penny. If Digital Research had been able to convince themselves that it was possible to sell a copy, perhaps they would have tried. Unlike Fortran, Logo is eminently suitable for writing comedy routines, but whether it provides an easy route into programming is arguable (recursion and list-handling really aren't that easy to grasp). BASIC, on the other hand, will prove no trouble whatsoever.

Logo is a waste of disc space (he says, bracing himself against a flood of indignant riposte). Erase it.

## LISP

(List Processor)

This represents an earlier attempt at 'logical' programming. (As opposed to what, exactly?) Like Logo, Lisp seems to be one of those languages that got lost on the way, or maybe it just lost us. It was originally written in the Sixties to create a more 'natural' approach to programming although it's not easy thinking of a suitable program for it.

It is generally used for artificial intelligence programs and treats all kinds of data as lists. Lisp seems a good idea, but that's about as far as it gets. It can be useful in larger environments. It needs a lot of data, a large TPA (or Transient Program Area) and a faster computer to show what it can do.

## MODULA 2

(Whatever happened to Modula 1?)

Niklaus Wirth designed this language to replace Pascal. It furthers the structured programming concepts developed by Wirth, Dijkstra and Hoare, and is extremely strong on type-checking and control structures. Implemented as a compiler, there are several versions available, usually with a few extras grafted on for the convenience of non-purists. It will produce fast code, even if a little verbose.

## PASCAL

(after Blaise Pascal, the French mathematician).

Designed by Wirth as an improvement upon Algol 60 (also designed by him). Pascal is highly structured and most people find it a relatively easy language to develop a program. Must be classy – everything ends in a semi-colon. Originally designed to investigate the nature of programming, it is a university research language that has escaped.

Coming before micros were common, a Wirth-specified language presents problems when using a keyboard, rather than from file to file. Most implementations provide non-standard solutions for this as well as extensive string-handling routines. There are many good versions of Pascal available, though compilers tend to produce bulky programs. Most implementations are semi-compilers. A good one is JRT Pascal in the public domain Sig/M 82. The extensive documentation is in the Dutch user library (CP/MgNL Vol 1082), despite the fact that it's written in English.

## PILOT

(Programmed Inquiry, Learning and Teaching)

An interpreter in the CP/M user group Volume 12. Pilot was originally designed at the San Francisco Medical School in 1973, and is useful when writing programs where the computer and the user talk to each other. Programs for 'interactive' computer teaching in any subject are easily constructed in Pilot. It isn't suitable for games, though, unless they're word-puzzles. It only occupies 5K.



## PL/1

(Programming language one. Great thing, inspiration)

The CP/M version is called PL/M and is expensive. BASIC-E is written in PL/M and the source is in the public domain on CP/M user group Volumes 29-30. The aim in writing PL/1 was to combine the best of Cobol, Pascal and Algol in one. Extensive and expensive.

## PISTOL

(Portably Implemented Stack Oriented Language)

This is a FORTH-type language in the public domain, Sig/M Vol 59. Basically, you get the bones and put the flesh on it yourself. It'll provide hours of fun for all the family, and with a little work, you can create a completely new language. It comes with a lot of documentation and samples.

## PROLOG

Designed in the early Seventies it is probably the best of the 'logical programming' languages. Like Lisp, it tries to apply rules to bodies of data with a view to ascertaining the truth or falsehood of a statement. Prolog makes use of a great deal of recursion in these searches, and although it is not an intrinsically fast language, it can be persuaded to perform sophisticated functions with little programming. A language for performing tricks with data, not hardware. EPRO, a small PROLOG, is on Sig/M 242.

## In the Public Domain

A lot of these languages were written in American universities. All programs developed in the American academic sphere are automatically public domain. They're not toys, though they often lack the bells and whistles of successful commercial implementations.

A good commercial language source is Grey Matters, 4 Prigg Meadow, Ashbourne, Devon TQ13 7DF. For public domain languages, join the CP/M Users Group UK. (There are other sources as well: PD Sig, for example). Details of how to join can be obtained from 72 Mill Road, Hawley, Dartford, Kent DA2 7BZ.

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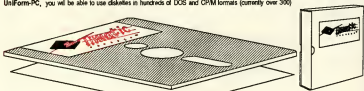
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# SCREEN, PAPER AND THE LEPER'S SQUINT

**T**he great unsolved mystery of word processing (one of the most baffling and sinister cases, Watson, that I have encountered) is, why does it always look more convincing before you print it out? Somewhere between the screen and the paper, flawless-looking prose breaks out in horrid eruptions of typing errors, spelling mistakes and general infelicity. One interesting theory is that all printers contain devilish virus programs which not only pervert your text but transmit the changes back along the cable to your word processor's memory and disks. This idea, however, is obviously not paranoid enough to explain the reality.

## But seriously...

Here are some slightly more plausible thoughts.

**Theory number two:** even the superlatively wonderful Amstrad PCW screen, so much clearer than rotten old 256-colour ultra-high-resolution IBM VGA displays (he said with bitter irony), is not 100% easy on the eye. Even a mild visual fatigue that you don't actually notice can take its toll. Perhaps we're subliminally repelled, and tend to scan on-screen text less attentively than a piece of paper. (I know proofreaders who are much less attentive than a piece of paper, but this is a digression.)

**Theory number three** is deeply psychological. We do seem to put a ridiculous trust in computer infallibility. (When did you last check all the figures in a bank statement?) In a recent fit of curiosity, Ansible Information found that although the arithmetic was OK, the bank had lost the entire contents of one account, put us in the red by debiting a cheque to the wrong name, and imposed a mysterious charge of several hundred pounds labelled CHEQUE BOOK. Take a bow, NatWest! All those glamorously glowing, hi-tech letters on the screen look somehow convincing and inarguable and right, until they reach the paper....

**Theory number four** just complements number three: this flat-lane world is so full of silly words, and stupid acronyms that

look like misspellings, that those exposed to it become more tolerant of apparent mistakes in a computer context. Everyone who writes about programs sooner or later adds the non-word COM to their spelling-check dictionary, since otherwise every mention of PIP.COM or whatever will make the checker go tut-tut. This is fine until you mistype "con" or leave off the end of "come", and the spelling checker doesn't object. As you add more of computing's two- and three-letter jargon words and acronyms, there's an increasing chance that any short mistyping will correspond to a non-word and be passed as OK. (I spent ages wondering how the obscure formation RG had wormed its way into a spelling checker. It turned out to be part of my postcode.)

**Theory number five** is vaguely related to number two, and suggests that the problem is that of the Leper's Squint. This tasteful domestic appliance was essentially a peephole in the thick wall of a mediaeval church or Great Hall, through which the afflicted were allowed to peer at the fun goings-on within... a precursor of breakfast television. Reading a big document on any word processor has something of the same tunnel-vision quality. LocoScript aggravates this problem because the Leper's Squint is narrower than it need be - experienced users can't turn off the menu information and use the whole screen for text. The limited vista plus the slow shuffling of pages on and off the disk gives you all the more opportunity to forget the details of page 3 by the time you see page 6, and to use your favourite words "concatenation", "molybdenum" and "gleet" too often, too close together.

## The boring bits

How do you avoid or at least reduce the disappointment of finding your print-out less wonderful than the display's glowing prose? I hate to admit it, but there's no magic answer.

Spelling checkers weed out many typing calamities, but have their limitations as above. "Style checkers" also exist, but tend to



*WASTED*  
A page  
in the company  
of author and  
PCW pundit  
David Langford

L  
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G  
F  
O  
R  
D

concentrate on the red herring of complexity as measured by word and sentence lengths. (They also tend to be lazily programmed, so you have to muck around converting LocoScript text to ASCII files, etc.) Ultimately, you need to read the whole text through as slowly as possible, as often as possible.

A critical read-through at your normal speed is just part of the process. A second and very slow read is a frightful bore, but throws dodgy phrases into high relief; if you work alone, it helps to move your lips (shudder, shudder), subvocalize or even recite the whole thing loudly. There are plenty of phrases, especially in fictional conversation, which at first glance look all right but can't be read aloud without exposing flaws. In a recent bad SF novel, someone shouts, "Sustained nullification on a huge scale might be beyond nature's ability to counteract" The sentence is grammatical, just. But

try shouting it.

W.H. Auden suggested the severest critical test of all, absolutely guaranteed to expose any stylistic flaw. The method is however only suitable for poets who aren't word-processor addicts, since it consists of writing out the whole thing again in longhand. Think about that, but not too hard.

## Every which way

More realistically, proofreaders sometimes look for misprints by reading in a way which kills logical sense and continuity, so that the mind doesn't treacherously make use of the context to correct lapses without even noticing them. I tried reading this very article in two such ways - backwards line by line, and backwards word by word - and can report that it's extremely boring. (Didn't even find any satanic messages.)

Style prose one's on effect bad a have itself could technique this using whether know don't I....

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## Hex wise

Hexadecimal is one of those dreadful number bases whose primary use is to write school mathematics problems. For technical reasons computer programs work in this base 16. Programmers therefore count 0,1,...,9,A,B,C,D,E,F,10,11,12, and so on. So 22, 30, E5, FF etc. are all legitimate hex numbers, and they're never what they appear – 'B' in hex is actually eleven, '22' in hex is actually thirty-four, etc.

address 04C0. If you add an address, ie. D5000, SID will list the chunk of program on and after that address. There's no quick way of finding the text you're looking for – all you can do is keep pressing D until the phrase DOCUMENT.000 appears. This will probably be around the address 1700 (so have a look there with D1700).

Now you have to work out the address of the D of 'DOCUMENT'. Find the line in which it occurs; suppose this line begins 1740. Start at 1740 and count (in hex, sorry) along the middle row and right-hand row together until you get to the 'D'. If the 'D' is last-but-one on the right-hand side, your counting goes 1740,1741,1742,... 1749,174A,174B,174C,174D,174E. The address of the letter 'D' is therefore 174E. If the address figure on the far left ends in 0, then the address of the letter at the extreme right of the right-hand column ends in 'F'.

SID gives you another address – it's expecting you to substitute some more, if you've typed in exactly eight letters the address you see should be 1755. You don't want to substitute more text, so type a full stop (no quote mark!) and SID's # prompt returns. If you now type D1700[RETURN] you should see the new version of this chunk of program with your amendments.

You can carry on examining the program with D and substituting with S to your heart's content. When you wish to save your handwork, type # plus the name of the program – here MA:J20LOC0.ENS[RETURN]. After a few seconds you get the # prompt again and you can exit back to CP/M's A> prompt with [STOP].

## Proof of the pudding

Now the new J20etc. file is on your startup copy disc. Hold your breath, remove the disc, press [SHIFT][EXTRA][EXIT] and reinsert it. If all's gone well your Aunt Maud special LocoScript should start up as usual except that all documents will initially be called AUNTAUD.000, AUNTAUD.001 and so on, numbered automatically for you.

If something's gone wrong (if you get a 'file checksum error' or similar) you've just got your counting wrong somewhere; all you can really do is make a new copy disc and start the whole thing again.

Experienced programmers might see this as a prostitution of SID's powers, but rewriting text in any program is fun and a taste of what 'real' hacking is all about. You can adapt this for any program you like – CP/M, BASIC, SuperCalc 2, Mini Office; the principles are always the same as above. Just use the D and S commands and always work with expendable copies!

EXIT

```

#d1700
1700: 20 68 00 6C 63 8D 82 8F 20 56 8C 65 73 00 k.limbo files.
1710: 20 58 69 64 54 55 3E 20 59 8E 68 62 6F 74 hidden limbo
1720: 20 58 69 64 54 55 3E 20 59 8E 68 62 6F 74 H.N. not
1730: 20 58 69 64 54 55 3E 20 59 8E 68 62 6F 74 fitted. empty
1740: 20 20 20 20 20 20 20 20 20 20 20 20 20 20 group .AU
1750: 4E 24 4D 41 55 44 30 20 39 44 63 73 63 20 4D 61 WTAU00000Disc Ma
1760: 60 51 8D 85 72 00 45 72 61 72 85 85 8E 48 85 8E nager.Erase...re
1770: 60 51 8D 85 72 00 45 72 61 72 85 85 8E 48 85 8E name...recover f
1780: 72 6F 74 63 72 6F 74 63 72 6F 74 63 72 6F 74 rom Limbo.rename
1790: 20 47 72 5F 75 79 00 7E 65 8E 61 6D 65 8E Group.rename Di
17A0: 72 6F 74 63 72 6F 74 63 72 6F 74 63 72 6F 74 ss.Name.Uid...
17B0: 4E 65 77 5E 03 85 47 72 6F 75 79 3A 00 44 72 6F New...Group.Dri
#ma:j20loc0.ens#

```

▲ Checking it's worked – yes, looks OK, so save it

## Three little letters

SID was developed from a program called Dynamic Debugging Tool, or DDT for short (well, it kills bugs, after all). The alternative name SID or symbolic instruction debugger was proposed for the improved version. Regrettably, sanity prevailed.

## It figures

The command to substitute something for what's currently stored at an address is S plus the address. So, to write 'AUNTAUD' over 'DOCUMENT', type after the # prompt S174E. SID responds by writing the address, 174E, and the figure 44 (as this is hex, this is pronounced 'sixty-eight' – the ASCII code for D). This is the machine's code for D, and should be the same as the figure in the middle table corresponding to the 'D' in the right hand table.

Now type in 'AUNTAUD' followed immediately by [RETURN]. The quote mark at the beginning tells SID that you're substituting text (rather than code which you type straight in). The important thing is that the text you substitute must only replace text – if you overwrite some of that code, your program will almost certainly crash, ie. stop working irrevocably somewhere, when you use it. So when replacing text, always make the substituting and substituted text the same lengths. (If the substituting text is shorter, pad it out with spaces. If you substitute, say 'DOCUMENT' with 'MAUD' there's no harm done but then you'd get 'MAUDMENT' as your document names).

Disk management.				Printer info.	
nt	EXMIT	existing document	PFPRINT	document	
inspect	f3-copy	f4-move	f5-Rename	f6-Erase	
Create document					
6 file	4k used				
oup	4	3	1	1	1
oup	4	3	1	1	1
oup	4	3	1	1	1
oup	4	3	1	1	1
les	4	3	1	1	1
AUNTAUD.000 1k					
AUNTAUD.001 1k					
AUNTAUD.002 1k					

▲ Your modified Loco in action

## SID's serious side

SID stands for 'symbolic instruction debugger'.

What? Well, it's a very powerful utility that programmers use (not BASIC users, you understand – we're talking serious programming here) for debugging programs, ie. finding out why a program isn't behaving as it should. Imagine you're writing a BASIC program to organise your accounts; unfortunately there's a bug and your balance keeps coming out at \$34 million in the red. Debugging this is relatively simple; you can press [STOP] at any point in the program, type PRINT balance% or any other variable and get the value of that variable at that point in the program. By running the program a few times, pressing [STOP] at appropriate places and printing the value of balance%, you can work out where in the program things begin to go wrong. Alternatively you

can look at the listing and figure out where the problem is.

But what about the same program written 'properly' in assembler? Assembler consists of one-line 'mnemonics' like LD R1,1 and PUSH DE – obviously it's not as easy to figure out what's going on as it is in a BASIC statement like balance=income-expenses%. Also, you can't just press [STOP] and look at the registers (the PCW's 'notepad') to find out what's happening as the values change thousands of times a second.

Enter SID. With this you can insert 'breakpoints', ie. at a crucial point in the program you put the equivalent of a [STOP] into the program itself; you then run it, the program stops at the right bit, and you can examine the contents of the registers. SID also

can display the contents of a program so you can see what's going on, and you can even edit individual parts of the program and write the new version to disc. A variety of tracing functions allow programmers to monitor the happenings of their program between this part and that part to see, for example, how often this bit of the memory is used compared to that one, to understand why and how their program is misbehaving.

And why do people program in assembler if it's so hard? Good question. Such programs are much faster and more efficient than BASIC, and can do cleverer things like play around with the screen and obscure parts of the memory. You can even write assembler programs to let you switch immediately between CP/M, LocoScript and back at the touch of a button!



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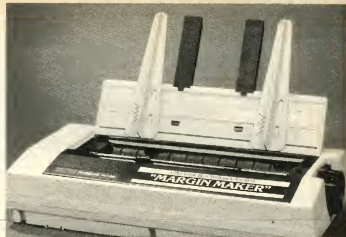
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# FIND IT AGAIN

The first of a two-part series shedding light on the mysteries of Jetsam file-handling

One of the most impressive features of Mallard BASIC is its much talked about but little used Jetsam file-handling system. Jetsam is such an efficient and speedy method of handling data it can compete favourably with professionally-written databases in machine code; yet you can write it yourself.

**W**hy isn't Jetsam used more often? One reason is that there is notoriously little documentation on it. The other is that, given this lack of information, there are functions that aren't easy to work out by trial and error. This is partly because Jetsam was originally devised for multi-user systems (more than one person looking for information from one computer) so these strange details make a lot of sense in a multi-user system but seem just a nuisance on the PCW. You still need them though or Jetsam will just refuse to work.

However, anyone who has worked with Jetsam quickly discovers that it is well worth the effort getting past these minor irritations and discovering by far the most efficient method of storing information in BASIC.

## The easy life

Owners of the 8512 have a great advantage over the pioneering 8000 series owners who dabbled in Jetsam in that they actually have an example Jetsam file on disc. This may not exactly be the ideal way to learn how to set up Jetsam files but it is a lot better than trying to work out how to do it from what is written in the manual.

## The real thing

So what can Jetsam do that the other types of file handling can't? In simple terms it is much more like a real database. It allows you to store large amounts of details in a format you choose, list out the most important headings in alphabetical order, find an individual entry and add or delete entries with ease.

It does this by having two files – an index file and a data file. You need both these files and BASIC will soon throw up an error message if you try and work without one or both available.

Unlike sequential or random access files these have to be created using the command CREATE. To do this you have to work out the total number of bytes (or characters) each of your records will take up.

Say for instance you are keeping track of all your friends' birthdays. You want to record their name, three lines of an address, the date of their birthday and whether they sent you a birthday card last year.

If you have a lot of Indian friends with very long names

you might need at least 20 characters for the name's field and another 20 characters for each of the three address fields. The date of birth will take up eight characters (DD/MM/YY) and whether they sent you a card last year just needs one character (a simple Y or N).

Just add these together (the total in our example comes to 89). Then stick on another 2 bytes that Jetsam will use for its own purposes – a total of 91. When we enter the number 91 in the CREATE command it tells the computer to look for a new record starting every 91 bytes.

To help you remember what the files are for, call them by a memorable name. In this case something like BIRTHDAY.IND (for the index file) and BIRTHDAY.DAT (for the data file) would be suitable.

## On the first day....

The act of creation isn't too strenuous. By typing `CREATE 1, "BIRTHDAY.DAT", "BIRTHDAY.IND", 2, 91` the files appear and, in theory, you should never need to do it again.

There are a couple of unusual details here. First is the 1 after CREATE which is called the file number. This has to be quoted virtually any time you do anything to a file (for example `CLOSE 1` or `CONSOLIDATE (1)`). The other is the number 2 after the filenames which is there as a locking number – a kind of password in a multi-user system. It doesn't perform any practical purpose here but you still need it.

You don't even need to write this process into the program. It would be sufficient to just type that in at the keyboard to bring the files into being. However most people do include the creation process as part of the program. You might want to start a new set of data files on a different disc or there is just the chance that things might go wrong and they will have to start again.

Having created the files the first thing you do is close them. You need to open both files every time you run the program so you definitely will want to write this into your program. But if you try to open files that are already opened BASIC will object so close the files and save yourself trouble (`CLOSE 1`).

## On the second day....

Another operation that needs to be carried out pretty early in the process is setting buffers, which produces an area of memory that you can use to store the information you are entering into your database without having to put it on to disc every time.

The bigger the buffer area, the faster the program runs by cutting down drastically on disc access time. However it does take room out of the Transient Program Area (the area of the computer where your program actually runs) so if you take up too much of that, you could leave yourself without enough room to run a complicated program.

As we are producing a pretty simple program here we can give over a fair amount of space to the buffer area. So in an early line enter `BUFFERS 30`.

## Filed in a field

The best way to understand a field is to think how you kept records before you had a computer. You would write on a card the name, the first, second and third lines of the address, telephone number and so on. Each of these is a field.

A keyed field is one that holds information that you would want to use for sorting. So if you want to call up all entries

from the same town you may make the third line of the address (the one where you enter the town) a keyed field. As you are unlikely to want to call up an entry by entering the telephone number you wouldn't want to make that a keyed field (though the full telephone number uniquely indexes everyone in the country, of course).

# GAIN, SAM

anding – and a simple practical example of Jetsam in action

```

10 IF FIND$( "*.dat" ) <> "" THEN 40
20 INPUT "There are no database files on this disc. Do you want to start a new one?"; y$
30 IF UPPER$( LEFT$( y$, 1 ) ) = "Y" THEN 100: ELSE END
40 PRINT "You have databases on the following subjects"
50 FILES "*.dat": PRINT
60 INPUT "Do you want to use one of these, Y/N?"; y$
70 IF UPPER$( LEFT$( y$, 1 ) ) = "Y" THEN INPUT "What database?"; bases$: ELSE GOTO 100
80 bases$ = bases$ + ".dat": IF FIND$( bases$ ) = "" THEN PRINT "file not found": GOTO 70
90 GOTO 500
100 INPUT "What name for your new database :"; name$
110 namedat$ = name$ + ".DAT": nameind$ = name$ + ".IND"
120 IF LEN( name$ ) > 8 THEN PRINT "too long": GOTO 100
130 FOR x=1 TO 5: PRINT "Name for Field "x";: LINE INPUT name$(x): NEXT
140 FOR x=1 TO 5: PRINT "Length for "name$(x)" field;: INPUT leng(x): tot=tot+leng(x): NEXT
150 tot=tot+2
160 PRINT "Creating files for the " name$ " database"
170 CREATE 1,namedat$,nameind$,2,tot
180 CLOSE

```

```

08AD
2324
08A6
171C
0998
13D1
1B53
1ABF
03C1
140F
0DEC
12A2
18EF
217B
051E
12C5
0E11
0320

```

▲ The best way to understand how Jetsam works is to see it in action. Here is the first part of a listing to produce a simple Jetsam file. This of course won't work as it stands but will build month by month into an invaluable program.

The aim is to make life easy when setting up databases and to produce a system where you can keep a number of different databases on the same disc.

The program tells you what database files are already on file and asks if you want to start a new one. When prompted pick a file name (under 8 letters) and the program will ask you for the names of your fields. Five fields are available but if you want more just change the number in the FOR...NEXT loop. This will mean changing the FIELD command but more of that next month.

The program then asks for the length of each field. This is the maximum number of characters you will use so pick a reasonable number (for example names will take up about 20). On the other hand the bigger the fields the less number of entries you can get on a disc. Then just wait while the program automatically CREATES your files.

Now you are ready to actually open the files and start putting information in them. But that is just too much heady excitement to take in one day so you will have to rest and build yourself up for another action packed episode of 'Find it again, Sam' next month.

EXIT

## It must mean something

The SAM from Jetsam stands for 'sequential access memory', which gives some clue as to how the process works. The idea is that rather than sort all the information into alphabetical order you have two files – a data file (with the main bulk of the information unsorted) and

the index file with the keyed fields (see margin note) and details of where to find the data file.

If the key is the name (that means entering the name to find full details of the record) all names will be kept in order in the index file.

## What can go wrong?

One thing that can go wrong is the dreaded 'Inconsistent Files'. What happens is that information is put to the different files at a different rate. The program keeps information in a buffer until it has enough to make it worth its while putting it to disc. As there is more actual detail going into the data file the program will put information more regularly into one file than another.

But if something goes wrong, and the files are closed when the same numbers of entries are not in each file, Jetsam notices and throws up an inconsistent files error message. This is a real problem so always be sure to leave a Jetsam program by the proper method of closing both files with the appropriate

command. Once your program is running and debugged it is often worth adding the command OPTION RUN early in the program which doesn't allow the user to leave the program by using [STOP] or [ALT]c – so you have to leave using the proper closing procedure.

As an extra insurance you can use the command CONSOLIDATE (the act of putting the information into the files) at regular intervals (like every time you enter information) to cut down the chance of the files getting out of sync. If you do get inconsistent files, the easiest thing to do is erase the files and start again.

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# LISTINGS

If you believe in hard work, free speech and have no patience, don't read on

## VARIABLE SETTER

by Mark. L Davis

Everyone knows that when you are programming in BASIC it is sensible to set up variables for escape codes. These are the complicated formulae that are needed for all those simple tasks that seem so difficult in MALLARD - things like clearing the screen or placing the cursor at a specific spot on the screen.

Set a variable, and instead of having to type in `PRINT CHR$(27)+"E"+CHR$(27)+"H"` every time you want to clear the screen you just type `PRINT cls$` and everything disappears.

This technique can be used to do lots of

things, like bleeping the PCW bleep, switching the cursor on and off, using reverse video, positioning the cursor anywhere on the screen or setting windows - all the sort of little details that make your program look more impressive.

And now this is made amazingly easy with this simple program from Mark Davis. When you run the program it prints out on screen the details of all the variables and how to use them. It then considerably leaves you with all the functions defined in seven lines of BASIC (lines 1 to 7 sensibly enough) as if you had just typed them in and ready to start programming at line 10 as usual. The seven lines are saved with the

program and every time you run your program it defines the variables for you.

It has all the normal functions that you use in virtually every program but if you have your own special favourites you can add them into lines 8 and 9. If you want a hard copy of the details press [EXTRA] and [PTR] for a screen dump (unless you've got a 9512 of course). But as you will always be using the same variables you will soon get to remember their names.

If you want to use any of these functions in your program you just type `PRINT` and the variable name. For instance typing `PRINT bel$` will make the bleeper bleep.

Running this before you start writing any program means that you can use all the functions without having to worry about whether you have defined them. It also means that it will remind you to define any other variables you need in a sensible orderly fashion. Funny how you can get all this out of such a simple idea.

THE FOLLOWING VARIABLES ARE LOADED INTO THE PROGRAM

esc\$	is the escape code chr\$(27)
bel\$	is chr\$(7)
cls\$	clears the screen
cof\$	switches the cursor off
con\$	switches the cursor on
inon\$	switches inverse video on
inof\$	switches inverse video off
fnat\$(X,Y)	prints at (X,Y) where x = row no and y = col no
fnwindow\$(tr,lc,nc,ncs)	sets screen size (top row no, left col no, no rows, no cols)
close\$	closes window to default setting

ALL THESE VARIABLES SHOULD BE PRECEDED WITH "PRINT"

you may start your program lines at line no 10

use EXTRA and PTR to get a print out of these variables

```

1 esc$=CHR$(27):bel$=CHR$(7)
2 cls$=esc$+"E"+esc$+"H"
3 DEF FNat$(x,y)=esc$+"Y"+CHR$(x+32)+CHR$(y+32)
4 DEF FN window$(r,l,h,w)=esc$+"X"+CHR$(32+r)+CHR$(32+l)+CHR$(31+h)+CHR$(31+w)
5 close$=FNwindow$(0,0,31,90)
6 con$=esc$+"e":cof$=esc$+"f"
7 inon$=esc$+"p":inof$=esc$+"q":ston$=esc$+"1":stof$=esc$+"0"
10 ZONE(30):PRINT cls$:"THE FOLLOWING VARIABLES ARE LOADED INTO THE PROGRAM":PRINT
20 PRINT "esc$","is the escape code chr$(27)":PRINT:PRINT"bel$","is chr$(7)":PRINT
30 PRINT "cls$","clears the screen":PRINT
40 PRINT "cof$","switches the cursor off":PRINT
50 PRINT "con$","switches the cursor on":PRINT
60 PRINT "inon$","switches inverse video on":PRINT
70 PRINT "inof$","switches inverse video off":PRINT
80 PRINT "fnat$(X,Y)","prints at (X,Y) where x = row no and y = col no":PRINT
90 PRINT "fnwindow$(tr,lc,nc,ncs)",
100 PRINT "sets screen size (top row no, left col no, no rows, no cols)":PRINT
110 PRINT "close$","closes window to default setting"
120 PRINT:PRINT"ALL THESE VARIABLES SHOULD BE PRECEDED WITH "PRINT"
130 PRINT:PRINT "you may start your program lines at line no 10
140 PRINT:PRINT "use EXTRA and PTR to get a print out of these variables"
150 ZONE(15):DELETE 10-110
  
```

0799  
0616  
0F45  
1762  
0A17  
07FE  
14F1  
2225  
1D30  
0FB5  
1328  
13DB  
14FD  
1510  
1BFA  
0D1B  
1F74  
1567  
1C3F  
19AB  
1D74  
0821

# PATIENCE

by Pete Gerrard

**A**fter all the frenetic arcade type games last month, here is a more leisurely thoughtful game - more suited to intellectual PCW owners. It is a computerised

form of the old game of patience you played as a kid.

The cards are laid out, face down on the screen. You move the cursor (using the cursor keys) over the card of your choice, press [ENTER] and the card turns over. Turn over two cards that match (two Kings or two Aces for instance) and you score a point. The cards are removed from the screen and you then get another turn. What could be more pleasant.

The only thing that spoils this gentle idyll is that if you don't turn over two cards the same the computer gets a turn. And if it picks a pair of cards it gets another turn. It is then you discover

that the PCW has a better memory than you do.

There is even a setting for the level of difficulty. Goodness knows what level 1 (tough) is like. We didn't get beyond 3.



```

10 a$=CHR$(27):offs=c$+"F":PRINT a$+"0":c1$=a$+"E"+a$+"H":cns=a$+"a" 12D4
20 DIM de$(52),ch(13,4):a$=PEEK(64504!):GOSUB 480:a$=a$PEEK(64504!):RANDOMIZE(a) 1872
30 PRINT offs:PRINT c1$:PRINT c1$:TAB(40):" * PAIRS * " 12FD
40 ERASE de$,ch:DIM de$(52),ch(13,4):a$="A23456789TJQK":b$="CDHS":ds=CHR$(138) 1803
50 FOR i=1 TO 13:FOR j=1 TO 4:de$(i)=de$+MID$(a$,i,1)+MID$(b$,j,1):NEXT j,i 16D2
60 FOR i=52 TO 1 STEP -1:a=INT(RND(1)*((i+2)-1)+1):IF a/2=INT(a/2) THEN a=a+1 1753
70 de$(i)=MID$(a$,a,2):de$=LEFT$(de$,a-1)+MID$(de$,a+2):NEXT i:PRINT 1356
80 PRINT>Select skill level. "":PRINT:PRINT"1 - Tough":PRINT"2 - Average":PRINT"3 - Easy" 1FBD
90 z$=INKEY$:IF z$="1" THEN s=1 ELSE IF z$="2" THEN s=2 ELSE IF z$="3" THEN s=3 ELSE 90 1836
100 PRINT:Level "z$ chosen.":GOSUB 480:PRINT c1$: 151E
110 a$=CHR$(134)+ds+ds+ds+CHRS(140):b$=CHR$(133)+s+###+CHRS(133):c$=CHR$(131)+ds+ds+ds 13EB
120 c$=c$+CHRS(137):FOR b=1 TO 4:FOR a=1 TO 13:GOSUB 540:NEXT a,b:m=0:you=0 1756
130 PRINT on$:GOSUB 520:x=8:y=3:GOSUB 170 0P5A
140 z$=INKEY$:IF z$=" " THEN 140 ELSE z$=ASC(z$):IF z=13 THEN 180 112B

```

```

150 IF z=1 AND x>8 THEN x=x-6:GOTO 570:ELSE IF z=6 AND x<80 THEN x=x+6:GOTO 570 10CF
160 IF z=31 AND y>3 THEN y=y-8:GOTO 570:ELSE IF z=30 AND y<27 THEN y=y+8:GOTO 570 ELSE 140 2046
170 ch=PEEK("):PRINT a$+"*"+CHRS(32)+CHRS(32)+x):RETURN 12AC
180 a=(8+6)/4:b=(y-3)/8+1:c=(b-1)+13+4:IF ch(a,b)=1 OR (x+1 AND y=y) THEN 140 156C
190 ch(a,b)=2:ch=ch+1:(ch(b)-a):y=(ch(b)-b):ts=MID$(de$(c),1,1):z=c:GOSUB 490 1505
200 a$(ch)=ts:IF ch=1 THEN GOSUB 170:GOTO 140:ELSE PRINT offs:GOSUB 480 1785
210 ch=0:IF a$(1)=a$(2) THEN you=you+1:ch=0:FOR j=1 TO 2:x=(j)*8:y=(j)-1)*8-1 1866
220 IF a$(1)=a$(2) THEN GOSUB 560:ch(x(j),y(j))=1:NEXT j:GOTO 130 1576
230 FOR j=1 TO 2:a=x(j):b=y(j):GOSUB 540:NEXT j 105D
240 GOSUB 520:PRINT offs:IF s=1 THEN 410 0RAD
250 a=INT(RND(1)*13+1):b=INT(RND(1)*4+1):IF ch(a,b)=1 THEN 250 1309
260 e=INT(RND(1)*13+1):d=INT(RND(1)*4+1):IF ch(e,d)=1 THEN 260 133C
270 IF e=a AND d=b THEN 260 ELSE x=a*8+2:y=(b-1)*8+3:c=(b-1)*13+4 127E
280 t1$=MID$(de$(c),1,1):ts=t1$:z=c:GOSUB 490:z1=INT(RND(1)+100+1) 1356

```

```

290 IF s=1 OR (s=2 AND z1>25) OR (s=3 AND z1>50) THEN 300 ELSE 320 14E7
300 IF find=1 THEN 320 ELSE FOR i=1 TO 13:FOR j=1 TO 4:ds=MID$(de$(i+(j-1)*13),1,1) 1808
310 IF ch(i,j)=2 AND ds=t1$ AND (i<a OR j<b) THEN e=i:d=j:GOTO 320:ELSE NEXT j,i 18A3
320 find=0:x=e*8+2:y=(d-1)*8+3:c=(d-1)*13+e 0D1A
330 z2$=MID$(de$(c),1,1):GOSUB 480:ts=z2$:z=c:GOSUB 490:GOSUB 480 156A
340 IF t1$<z2$ THEN ch(a,b)=2:ch(e,d)=2:GOSUB 540:a=e:b=d:GOSUB 540:x1=0:y1=0:GOTO 130 1665
350 m=me+1:ch(a,b)=1:ch(e,d)=1:x=a*8:y=(b-1)*8:y=y-1:GOSUB 560:x=e*8:y=(d-1)*8:y=y-1 18E5
360 GOSUB 560:GOTO 240 06DD
370 IF me>you THEN PRINT"I win by"me"to"you:GOTO 390 1502
380 IF me=you THEN PRINT"A tie!":GOTO 390:ELSE PRINT"you win by"you"to"me 18A4
390 PRINT:PRINT"Another (Y or N) ?":PRINT on$: 13AD
400 z$=INKEY$:IF z$=" " THEN 30 ELSE IF z$="n" THEN END:ELSE 400 1450
410 FOR i=1 TO 13:FOR j=1 TO 4:IF ch(i,j)=2 THEN 430 0FB1
420 NEXT j,i:GOTO 250 07OF
430 FOR k=1 TO 13:FOR m=1 TO 4:IF ch(k,m)=2 THEN 450 0FDD

```

```

440 NEXT m,k:GOTO 420 0717
450 IF k=1 AND m=j THEN 440 0882
460 c1=(j-1)*13+1:c2=(m-1)*13+k:c1$=MID$(de$(c1),1,1):c2$=MID$(de$(c2),1,1) 113D
470 IF c1$=c2$ THEN a=1:b=j:c=k:d=m:find=1:GOTO 270:ELSE 440 1426
480 FOR i=1 TO 2000:NEXT:RETURN 0D3B
490 x1=x:y1=y:x=x-1:y=y-2:GOSUB 170:PRINT ts;" ":y=y+1:GOSUB 170:PRINT " ":y=y+1 1CD0
500 GOSUB 170:PRINT " ":MID$(de$(c),2,1,1):" ":y=y+1:GOSUB 170:PRINT " ":y=y+1:GOSUB 170 18ED
510 PRINT " ":ts:x1=x:y1=y:RETURN 0C21
520 IF me>you=26 THEN PRINT c1$:GOTO 370 ELSE x=0:y=0:GOSUB 170:PRINT "Me":PRINT me 1874
530 PRINT "You":PRINT you:RETURN 087D
540 x=a*8:y=(b-1)*8:GOSUB 170:PRINT a$:FOR q=1 TO 5:y=y+1:GOSUB 170:PRINT b$:NEXT y=y+1 18F3
550 GOSUB 170:PRINT c$:RETURN 0A8A
560 FOR i=1 TO 7:y=y+1:GOSUB 170:PRINT " ":NEXT:RETURN 1385
570 GOSUB 170:GOTO 140 06D9

```

## Good programs needed!

We're looking for well written programs of up to 50 or so lines which we can print in these listings pages each month. Of course, since we can fit more of the shorter listings in, and they're easier to type, the longer ones have to be really special!

If you can program you could earn hard cash and instant fame by having your program printed in 8000 Plus. Give instructions on an accompanying sheet for using the program, and if there are any useful modifications that readers can make by simple edits to customise the program, mention those too.

To submit a listing you must supply:

- 1) A printout of the listing;
  - 2) A disc on which it is saved;
  - 3) A stamped addressed padded bag for its return;
  - 4) An explanation of what it does and how to use it;
  - 5) A signed statement confirming that the program is your own work and hasn't been submitted to anyone else.
- Send all this to *Listings*, 8000 Plus, Bath BA1 1EJ and allow up to 40 days for the return of your disc - we assess the listings in a batch once a month.

## How to type in a listing

Load up Malford BASIC - to do that, insert your CP/M disc, reset the machine and at the A> prompt type BASIC[RETURN]. Now you see the 'Ok' prompt. Just type in the lines of the listing exactly as they are printed on the page (but not the numbers on the extreme right). Type LIST at any time to print out your typing so far to the screen; if you want a printout to pore over, type LLIST.

Mistakes made before you press RETURN can be corrected with the DEL key, otherwise you have to use the line editor. Suppose you've made a mistake in line 100; type EDIT 100 and then you can use the cursor keys and DEL keys to correct it. Press RETURN when the line is OK. To delete a whole line, type its number only and press

### RETURN.

When you've finished, save the program to a disc by the command SAVE "FRED (or any other suitable name of eight letters or less). To run the program, type RUN.

Programs rarely run first time, but when BASIC encounters a mistake it tells you where it is. 'Syntax Error in line 60' means a mistake in that line (though the actual typing error may have occurred in a previous line, causing problems in this one). Other error messages can often occur too. Use the EDIT command to correct it.

You can rerun the program another day by loading BASIC up as before and, with the disc on which you saved the program in the drive, typing LOAD "FRED" and then RUN.

## TELEPHONE CHARGER

by Roy Archer

**T**ime is money. Particularly when you see your telephone bill. So here is a short program to keep you in touch with where all the money goes.

If you choose auto-timer (when prompted press y) you will be able to time a call as it happens. Set the computer up to the point where it says "To Start OR Stop clock - Press any key". When the call is answered press a key and when you finish press another key.

When it is completed you will see a neat

chart printed out on the screen telling you what the call has cost for the various charge bands.

The alternative is to enter the time a call took in minutes and seconds (if your PCW was too far away at the time)

and again it prints out the full range of possible costs.

If you know what band your calls all fall into try adding an input to pick out only the correct entry. You could even write the details to a file (last month's BASIC tutorial) and challenge Telecom at the end of the quarter.

And when the charges change? Mr Archer has thoughtfully put the variable in line 10 with a REM. Just find the new rate and edit the line.

### TELEPHONE CALL TIME/COST MONITOR

To Start OR Stop clock - Press any key

### TELEPHONE CALL TIME/COST MONITOR

Type of call	Cheap Rate	Standard Rate	Peak Rate
Local Call (L)	£ 0.05	£ 0.10	£ 0.15
Up to 35 miles (a)	£ 0.10	£ 0.20	£ 0.30
Over 35 miles (b1)	£ 0.15	£ 0.25	£ 0.30
Over 35 miles (b2)	£ 0.15	£ 0.30	£ 0.40

NOTE - Rate (b1) operates only over designated 'low cost' routes

```

10 ch=5.06 : REM pence charge per unit incl. VAT
20 DATA Type of call, Cheap Rate, Standard Rate, Peak Rate
30 DATA Local Call (L), 360, 90, 65 : REM )
40 DATA Up to 35 miles (a), 100, 34, 32, 5.7 : REM ) seconds per unit
50 DATA Over 35 miles (b1), 60, 30, 22, 5 : REM )
60 DATA Over 35 miles (b2), 45, 24, 18 : REM )
70 es=CHRS(27):DEF FNP$(x,y)=es+Y*CHRS(32)+CHRS(32+y):PRINT es+"B"+es+"H"
80 PRINT "TELEPHONE CALL TIME/COST MONITOR":PRINT
90 PRINT "Auto-timer ? (Y/N) ";
100 is=UPPER$(INKEY$):IF is="Y" THEN 120 ELSE IF is="N" THEN 110 ELSE 100
110 PRINT es+"A":INPUT "Length of call - minutes,seconds " ;m,s:GOTO 200
120 PRINT:PRINT es+"A":PRINT "To Start OR Stop clock - Press any key " : WHILE INKEY$="" : WEND
130 POKE 64503!,0:POKE 64504!,0:b=0

```

115F  
15B6  
0C82  
14C3  
0CCC  
0DD5  
16P3  
157C  
0BE0  
1355  
18BA  
200C  
099B

```

140 WHILE INKEY$=""
150 m=PEEK(64503!):m=10*(m\16)+m MOD 16
160 s=PEEK(64504!):s=10*(s\16)+s MOD 16
170 PRINT FNP$(10,30);es;"p "; Time :"-m;"minutes ";s;"seconds.";es;"q"
180 IF m>b THEN PRINT STRINGS(5,CHRS(7)):b=b+1
190 GOTO 140:WEND
200 t=m*60+s:ch=ch/100
210 PRINT:GOSUB 270:FOR a=1 TO 4:READ ds:PRINT ds;TAB(25*a);:NEXT:PRINT es;"A":GOSUB 270
220 FOR a=1 TO 4:READ ds:PRINT ds;:FOR b=1 TO 3:READ c:IF t<=c THEN un=1:GOTO 240
230 IF t>c THEN un=1+INT(t/c)
240 PRINT TAB(25*b);"£";USING##.##;ch*un;
250 NEXT:GOSUB 270:NEXT
260 PRINT "NOTE - Rate (b1) operates only over designated 'low cost' routes":END
270 PRINT STRINGS(90,CHRS(154)):RETURN

```

06F7  
0C9D  
0D00  
1540  
0F57  
0627  
0729  
2024  
1B37  
0AD7  
1028  
0A1E  
213B  
0B1E

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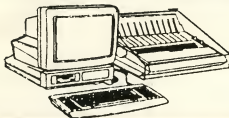
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## Film about mice

A convenient way of protecting your mouse from spillages of tea and coffee is to put a square of cling film on the top and secure it round the side if necessary with a rubber band.

Dr T Dukes  
East Dereham, Norfolk

## Do the Locochar

If you've used Locochar to design a few characters which, when run together, pick out your signature or company logo, you can save the trouble of having to type [EXTRA] plus the correct numbers in the right sequence by storing the sequence as a phrase.

## Form of address

The usual way to store names and addresses in a LocoScript file is to make each item a separate file called after the person in question, ensuring they are all displayed in alphabetical order by Loco's disc manager. However this is a rather extravagant use of your 64 allowed directory entries (256 on a 9512, or 8512 B drive discs) and large address 'books' won't fit.

An alternative if you have a lot of names and addresses to store is to have one group as your ADDRESS group and have files for

# TIP OFFS

## More glowing tips than outside a nuclear power station

Only getting half-life out of LocoScript? Fallen out with Mini Office's manual? Not clicking with CP/M? Don't just crawl into a hole, come to TipOffs, pages which are safer than your local reactor but even more powerful. And if you know any ways to get power out of your word processor or cut out background activity and waste in your CP/M programs, let us know – the best win £30! Getting their money counters clicking this month and sharing the money are Christopher Barry and David Mendel, whose identical tips on reversed LocoScript screens for these bright summer days arrived within four minutes of each other.



each letter of the alphabet called A, B, C etc. Store names and addresses in any order under the appropriate letter.

Suppose you want to insert Fred's address into a letter. Just edit file F and press [FIND], giving Fred as the name to look for, ending with [ENTER]. Store this address as a phrase by pressing [COPY] at the beginning of the address and again at the end, giving a suitable letter to save it under such as F. Exit and abandon edit, then at the right place in your letter just press [PASTE] and the

name and address falls into place.

As a bonus, when you have finished printing out your letter, you can print the address onto an envelope by inserting the envelope and lining it up, pressing **c** for Direct printing, inserting the address with [PASTE], and making it print with [RETURN].

You may have to set the left offset to get the address positioned on the envelope OK. Press [PTR] if you're not already in 'printer control state' (which you will be if you've just put an envelope in). In Loco 1, take [R3]=Actions and put the cursor

onto the 'Offset size option' and move the print head to the required position by a combination of [SHIFT] plus cursor for big jumps and cursors only for one space jumps. In LocoScript 2, take [f6] and select 'increase offset', then press [ENTER] repeatedly to move the print head to the required position. [EXIT] takes you back to printing.  
**W W MUSHIN**  
**Cardiff**

## The long and short of it

When creating new paper types in LocoScript 2, always assume the 'height' is the length of the longer side. When you choose between 'Portrait' or 'Landscape' format, height is always vertical for portrait and horizontal for landscape. LocoScript doesn't decide for you which is the longest side. For example, your typical

## BASIC selection of greens

You can choose a black-on-green/white or green/white-on-black screen in BASIC with the following commands.

```
PRINT CHR$(27)+"b"+"?"
+CHR$(27)+"c"+CHR$(0) will
reverse out the screen while
PRINT CHR$(27)+"b"+"c"+CHR$(0)
```

+CHR\$(27)+"c"+CHR\$(0) puts it back to normal.

This following listing put into a program will enable a user to select dark or bright screen at the beginning of a listing.

**David Tatum**  
**Southam, Warwickshire**

```
10 esc$=CHR$(27)
20 bright$=esc$+"b"+"?"+"esc$+"c"+CHR$(0)
30 dark$=esc$+"b"+CHR$(0)+"esc$+"c"+CHR$(0)
40 PRINT "Screen [D]ark or [B]right?"
50 c$=INPUT(1) : c$=upper$(c$)
60 if c$="D" THEN screen$=dark$ ELSE screen$=bright$
70 PRINT screen$
80 (program continues from here.....)
```

## LocoScript reversed

Though you can't use PALETTE.COM to change LocoScript's screen to black-on-green (or white) for sunny days as you can with CP/M, it is possible with a little ingenuity and SID.COM.

First load CP/M and at the A-prompt type PIP. If you have an 8000, type M:=DIR.COM, M:=PIP.COM, M:=SET.COM then

```
MSID
CP/M 3 SID - Version 3.0
M:=SID.COM finishing each with
[RETURN] (on a 9512 you don't
have to change discs). Finally
change to the M drive by typing
M:[RETURN]. Now insert a disc
with an expendable copy of your
LocoScript startup disc - don't use
```

your master under any circumstances!

From now on some of the figures you type may change depending on the version of LocoScript you have.

9512 owners (version 2.11): Type SID then RA:J211LOCO.EMS; a

few lines of garbage appear saying things like 'NEXT' and 'MSIZE'. Type s7aca and the letters CD should appear. Type 3a[RETURN] and immediately follow that with c0[RETURN] then 0[RETURN]. Finally press [EXIT][RETURN] and WA:J211LOCO.EMS[RETURN]. All this is done on your expendable copy, so there's no lasting harm done if you make a mistake: just make a new copy and go back to the beginning

Get back to CP/M by pressing [STOP]. Your disc should now start up LocoScript as normal but with a reversed screen.

LocoScript 1.2: As above but replace the .EMS filename given with J210LOCO.EMS and instead of s7aca type s776a.

LocoScript 2.12: As above but replace the .EMS filename given with J212LOCO.EMS and instead of s7aca type s779e.

Other versions: As above but

drive PCW.

Using RPED (insert your CP/M work disc and type BASIC RPED, select 'edit new screen', insert your Retrieve work disc and give RT.SUB as the filename to save) create a file RT.SUB on your Retrieve disc consisting of:

```
PIP
<M:~A:~*
<
M:
DATABASE
To use Retrieve, start CP/M up
```

as normal, insert your Retrieve disc (side A) and type SUBMIT RT. The contents of the Retrieve disc will be copied to the memory. When the opening menu of Retrieve is shown on your screen, remove the Retrieve disc and replace it with a data disc. Proceed as usual. Enter filenames without a drive at the beginning (ie. no 'A:'). When the message Please put the disc for B: into the drive appears, press [RETURN] and ignore the B: prompt - the point is that Retrieve now regards your drive M as A and drive A as drive B. From now on a single data disc should be enough for most purposes.

Francis and Sandra Pettit  
London

## Dodging the draft

It can be very dismaying to find how quickly the 9512 gets through printer ribbons, especially when you only want to do a draft copy of a document.

Rather than waste a new ribbon, it is possible to fool the printer by putting in a used ribbon with the ribbon cut so that the spool just revolves round, and then print out using inexpensive carbon paper sandwiched between a scrap piece of A4 and the paper you want to print on. One sheet of carbon paper lasts for dozens of prints.

Tony Shorey  
Harrow, Middlesex

## Quick post codes

Entering postcodes is always fiddly because of the constant change of shifts to get the capitals and numerals. However, the easy way to do it is to use 'numeric lock'.

Just press [ALT][ENTER] and all letters you type thereafter come out in upper case - but the numbers stay as numbers. After typing in the postcode press [ALT][ENTER] again to revert to normality.

It's possible by certain keypresses to select numeric lock by accident, so if you find your keyboard is behaving in the above way, press [ALT][ENTER] to go back to normal.

Rev Peter Beale  
Bulford, Wilts

## BASIC integrity

Most programs in BASIC use integers, and it's a bit tedious having to make all your variables have a per cent sign - a%, b%, and so on. However you can put the line DEFINT a-z somewhere in your program and then all variables with no marker - ie. a, b and so on - will be integers.

Fractional or very large (larger than 32767 or less than -32768) numbers can then be suffixed by a ! mark, ie. a!, b! etc.

Stephen Younger  
St Andrews, Fife

25x50 envelope is actually '50 high by 25 wide'. If you naturally assume it's wider than it is deep, you end up with 'Landscape' being tall and thin!

Arthur Wardell  
Halifax

## Retrieve space

SageSoft Retrieve isn't, as is often claimed, 'impossible' to run on an 82561. The following steps make it work on an unexpanded single-

## Any way you like

Using Database's The Desktop Publisher, you can design and print out your own alphabets. For right-to-left alphabets such as Hebrew you have the problem of back-spacing twice after each letter. If, however, you design the letters

upside down, then by selecting the Text option to 'left', and type new lines downwards instead of upwards, your characters come out right-to-left and the right way up.

Rev. David Warner  
Whitchurch, Hants

THE HEBREW BIBLE

The Hebrew language is written from right to left. The vowel sounds, which were added between the sixth and tenth centuries by the scholars known as the Kabbalists, are shown by dots and symbols beneath or above the letters. In some ways not dissimilar from the Pitman Shorthand System. As an example, here are the first two verses of Genesis.

בראשית

בראשית ברא אלהים את השמים ואת הארץ

והארץ הייתה תהו ובהו וחשך על פני תהום ורדת אלהים

מרחפת על פני המים

substitute the correct filename for your version (type DIR A:[FULL] before using SID and look for a file name like J[something].LOCO.EMS. Use this instead of the ones given above). Also you'll need to find the correct address to substitute for `7Aca` above; after loading up your EMS file into SID, type 1750[RETURN] and lines of assembly language appear. Keep pressing [RETURN] until you see two lines CALL ??? (where ??? is a hex number, ie. numbers plus A to F) followed by OUT F7. The number at the left of the CALL line is the address to substitute for `7Aca`.

Not as difficult as it looks, honestly! So long as you work with expendable discs any mistakes you make won't matter. Christopher Berry, Berkshire David Mendel, Norfolk

## Crude mail

A crude but effective way for 9512 (and LocoMail) owners of writing a letter to someone you've written to before is to 'fill' the original (with the cursor on the original, just press F) then cut the unwanted text leaving the addressee's details, your letterhead etc intact, then adding the new text. (You don't need any LocoMail commands in a document to fill it).

This is faster than copying and editing the old document, and saves having to make a separate TEMPLATE.STD for each addressee (another effective but rather profligate way of doing it).

The Fill exit menu gives the option of printing without saving, so is handy for documents which don't need to clutter up discs.

Arthur Wardell  
Halifax, Yorkshire

## BASIC tests

In a test where a variable may have a number of values, a complicated line like IF `a$="Y"` OR `a$="N"` OR `a$="P"` OR `a$="X"` OR `a$="T"` OR `a$="S"` THEN... can be shortened - just define a variable test\$ equal to "YNPTXS".

The test line then becomes IF INSTR(test\$,a\$)<>0 THEN... Stephen Younger (again)  
St Andrews, Fife

## Desert Island Tipoffs

Stranded with your PCW on a desert island which by an incredible stroke of luck has a 240V 50Hz square three-pin electrical socket, which eight tips would you take with you? This month a few favourite uses of LocoScript's phrases...

### Creating them

Put the cursor at the beginning of the phrase to be stored and press [COPY]. Move the cursor to the end of the phrase and press [COPY] again (or [CUT] which removes the phrase) and you're asked for a reference number or letter to store the phrase under. Take a letter as numbers refer to blocks; these are used for longer passages of text rather than the brief sequences under consideration here. From now all you do to reproduce your phrase is press [PASTE] then the letter you stored it under.

### Saving them

The problem is that the phrases are stored in the PCW's memory and disappear when you switch off. To get round this: LocoScript 1 While editing your document press [F8] 'Blocks'. Select 'save all phrases' - you see displayed the letters which have phrases stored under them. Back in the disc manager you'll see a file PHRASES.STD in group 0 - if you move this to your startup disc (erasing the old PHRASES file) then the phrases will always be available if you startup from that disc. LocoScript 2 From the disc manager select [F1] 'Actions' and select 'show phrases'. Spurious phrases can be deleted with the [-] key and the correct set can be saved using the 'save phrases'

option under a suitable name. To load up these phrases next session, put the cursor over the file the phrases were saved in and press [F1] selecting 'load phrases'.

### Normal service

The most usual use for phrases is standard sequences such as 'Yours sincerely, Abraham Zapruder' or 'Please pay up within 10 days or you'll be sorry' or your address and phone number. You can include carriage returns, tabs, even codes for layout changes. Playwrights can set up a phrases file with their characters under each letter followed by an indent tab ([ALT][TAB]) which indents the speech automatically.

### Testing time

Often you want to try out a few fancy effects - a table full of fancy bolts, italics, pitch changes, new layout codes and so on - without printing out the whole page they're on. The quickest way to do it is to make a block or phrase of the text, [EXT] the document, take D for 'Direct printing from the disc manager and paste in the block or phrase, getting it printed by pressing [RETURN].

### Make the headlines

You can get solid headline styles from LocoScript by overprinting bold letters two or three times, slightly offset from each other. This is done with a combination of setting line spacing to zero for overprinting and insertion of spaces of different sizes before

the text to offset the text. For example the sequence (+LS0) (+B) (+P17) [SPACE] (+P10D) X[RETURN] (+P15) [SPACE] (+P10D) X[RETURN] (+P12) [SPACE] (+P10D) X (-B) (-LS) [RETURN] prints out the letter X in a thick headline style by virtue of two overprints.

If you have the above sequence stored as a phrase, under H say, you can automate the process considerably. Type out your headline and make a phrase of this under T say. Then [PASTE] and in place of the three X's [PASTE]. Your headline is completed.

Remember if you want to centre things you'll want the centre code on each line and a space of pitch 17 immediately after each X, or else the text won't quite centre properly.

**Fred Arkwright**  
Freelance bottle packer  
46 Scunthorpe Rd, Goole

### Accent on languages

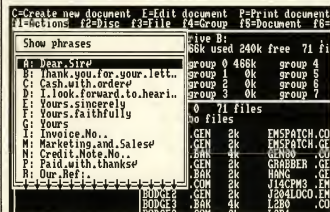
If you constantly use foreign languages you will be making good use of LocoScript 2's extended set of accents. However the accents are often not obtained in an obvious way - umlauts are [EXTRA] and so on. You can quicken things up by storing combinations of letters and accents as easier to remember phrases - [EXTRA] for e-acute, [EXTRA] for w-circumflex and so on.

### Supersub

Mathematicians and chemists who frequently need super and subscripts can store them in phrases - eg. phrase T would store a superscript 3 using the sequence (+P17) (+SR) (+B) 3 (-P) (-SR) (-B).

The bold stops the superscript letter looking too spindly. The same trick can be used with decimal points by phrasing superscripted full stops.

Of course LocoScript 2 users can select superscripts and decimal points from the 'Symbol' set, though it gets a bit tedious continually super-shifting over from and back to the normal set!



THE

## GOOD SOFTWARE

FILE

These pages provide a guide to the best software around for the Amstrad PCW. Published in three monthly parts, this time it's the turn of Spreadsheets, Games and Graphics to face the ultimate test. We've set out to test every piece of software we could lay our hands on, and to give you enough information to decide which program is the one you're looking for.

The selection isn't comprehensive, but the software listed here represents what we think is the best of that currently available. As well as a brief summary of what they do, there are the main Plus and Minus points for each program - Pluses have a ☐ by them, Minuses a ☐. Those we think are particularly noteworthy have a corner stamp - have fun window shopping!

## SPREADSHEETS

If a database replaces an address book, then a spreadsheet replaces the back of an old envelope. It is really an electronic piece of paper which allows you to jot down numbers, juggle them around and analyse the cost benefits of a situation. Vital for businesses, spreadsheets can be useful to home users too: if you want a bank loan you will find that showing your bank manager a spreadsheet printout of your living expenses answers a lot of questions!

A typical spreadsheet has a grid of rows and columns. This grid forms a screenful of cells identified by their column and row numbers, e.g. A3, K36 etc. Each cell can contain a simple number, some text to make the page easier to read, or a formula telling the spreadsheet to work out a number using values from elsewhere. The power of spreadsheets is in this last category, formulae. You can make a cell's value depend on the value of cells above it, or to the left of it, and this value is then automatically updated if changes are made to the other cells.

So how do you choose between the various spreadsheets? One difference is sheet size, i.e. the number of cells you are allowed to work with. You'll need a few hundred for home use, and 1000 or more for business use. Another area is the range of formulae that you can use - all spreadsheets allow simple column and row totalling, but with some you can get complex statistical analyses too. As with all software, think very carefully what you will need before choosing.

## MINI OFFICE PROFESSIONAL

£29.95 • Database Software • 0625 878888

Mini Office is a suite of five integrated programs - database, word processor, graphics module, comms package, and a very good spreadsheet. Broadly similar to SuperCalc in operation with useful features of auto or manual recalculation, replicating of rows/columns, powerful range of arithmetic functions etc. Printout a strong point - rows/columns can be put into italic/hold etc. and prints draft, NLO or even sideways! Can't sort and can't just save data or structure of a spreadsheet, but maximum size of spreadsheet is claimed to be 320k. You can use the data from a spreadsheet in the graphics module directly, though the manual is pretty useless at telling you how to do this.

### PLUSES • MINUSES

- ☐ Good, full-featured easy to use spreadsheet
- ☐ Prints in draft, NLO or even sideways
- ☐ Maximum size of spreadsheet 320k
- ☐ Can transfer data directly to graphics module
- ☐ Manual is little more than an index of commands
- ☐ Working out how to transfer data to graphics module requires a lot of inspired guesswork
- ☐ 'Save' options not as versatile as SuperCalc

## CRACKER TURBO

£49.95 • Software Tech • 0277 220573

A spreadsheet designed with advanced calculating power firmly in mind, including statistical functions. The screen layout is totally defined by the user, and cell value calculations can almost be set programs, e.g. DO...WHILE. It might prove too complex if all you want is simple spreadsheet operations. The screen messages are very helpful though. Turbo is claimed to be faster than Cracker 2 though sometimes isn't noticeably so.

### PLUSES • MINUSES

- ☐ Can cope with very complex formulae

- ☐ Flexible screen format defined by the user
- ☐ On-screen prompts are very clear
- ☐ Graphs/charts can be automatically produced
- ☐ Documentation is large, but obscure and confusing
- ☐ You've got to do a lot of work just to get started
- ☐ Very complex for quick, simple applications
- ☐ Needs some programming skills to get the most out of it
- ☐ Free workspace is on the small side (17k) although memory is used efficiently

## SCRATCHPAD PLUS

£59.99 • Caxton • 01-251 9494

If you want a traditional spreadsheet, ScratchPad Plus has most of the features you could want and more. 'Leng' 'virtual memory' means you can have a huge data area, and the screen can be divided into windows to view different parts at the same time. Many of the commands bear a remarkable similarity to the big business spreadsheet Lotus 1-2-3.

### PLUSES • MINUSES

- ☐ Virtual memory means you can have large spreadsheets
- ☐ Multiple windows - you can see all parts you want at once
- ☐ Good control over formatting
- ☐ Fast range of calculations possible
- ☐ Documentation sorely needs an index
- ☐ Screen prompts are cryptic: you need the manual to hand
- ☐ No provision for automatic execution from files
- ☐ No graphical output facilities

## SUPERCALC 2

£49.95 • Amsoft/Sorcim • 091 567 3395

The best selling spreadsheet, officially endorsed by Amstrad. SuperCalc 2 is broadly similar to ScratchPad Plus, and at least as effective, but it has a smaller workspace and is less flexible about the allowed spreadsheet dimensions. You can store sequences of commands for repetitive calculations.

### PLUSES • MINUSES

- ☐ Excellent manual - sections for beginners and experts.
- ☐ Can store sequences of commands and run later from run from files
- ☐ 'Data Interchanger' allows you to transfer spreadsheet data to other applications
- ☐ Comprehensive range of calculation functions available
- ☐ Screen can be split into 2 windows

## SPREADSHEETS • GRAPHICS

- Spreadsheet is limited by memory size
- No graphical output facilities

### FIRST CALC

**£29.95 • Minerva Systems • 0392 37756**

Touted as a quick and simple to use program for the beginner, it is nevertheless quite a powerful spreadsheet, with a large capacity, ability to replicate formulae, export etc. Really it's not vastly more user-friendly than the rest but a good value package at the same.

#### PLUSES • MINUSES

- A lot of program for the money
- Good tutorials with demo files
- Simple to use but reasonably sophisticated
- Not much easier to use than more powerful packages

### ESTIMATING & COSTING

**£49.95 each • Comix Software • 0462 682989**

Both these programs aim to provide help to small businesses by keeping track of costs. You break down the job/product you are doing into small units and specify the cost of each basic component. The programs then analyse your profit margins and can produce printed quotes to convince customers you are superb value.

#### PLUSES • MINUSES

- Well written manual aimed at businessmen not programmers
- Simple and robust to use
- Changes in material cost instantly reflected in all quotes
- Next way of doing on-the-spot quotes
- Can't add new components to a description after it's set up
- Cost of one component can't be dependent on another
- Inflexible design of printed quotes might be inconvenient
- Generally only suited to smallish businesses

### POCKET CALCSTAR

**£39.95 • Davis Rubin Associates • 0386 841181**

A fairly traditional spreadsheet but with a few surprising features. It's not particularly large or fast, but is attractively

priced and has all the basic functions. Can form part of an integrated system with the other Pocket products. A safe buy for the first-time user, and the documentation is up to the usual high MicroPro standards.

#### PLUSES • MINUSES

- Good range of mathematical calculation functions.
- Good documentation — sections for beginners and reference.
- You can preset a course of cells to visit, for form filling.
- Can be integrated with other Pocket products, eg ReportStar
- Screen size is very small — 10-15 spreadsheet rows.
- No auto-recalculation facility
- It's not very fast
- You can't type heading text etc. over adjacent columns

### ROTATE

**£24.95 • Proteus Computing • 01-748 2302**

Rotate is a simple utility program to print out text files rotated through 90 degrees on the paper. This gives you more columns per page which will be needed for some programs, like large spreadsheets.

#### PLUSES • MINUSES

- Simple menu-driven program does just what it says
- Four print fonts, can be used with unrotated files too
- The quality is not all that good
- Only prints plain text, no subscripts, underlining etc.
- No specific support for non-Amstrad printers

### MULTIPLAN

**£69.99 • MicroSoft/NewStar • 0277 220573**

A well established package with all the features you would expect of a reasonable spreadsheet — it just lacks that something extra that recommends some of the newer ones. No support for command reading from files, or for "virtual memory". Adequate, but there are better for the money. And the manual can kill at twenty paces!

#### PLUSES • MINUSES

- Functions easily entered by menu selection
- Full range of features and functions
- On-screen help text is available as you go
- Sheets can be interlinked and data transferred between them
- You need a computing degree to understand the manual
- No support for automatic execution
- Workspace is limited by CP/M memory space
- Printer output a bit cumbersome

- Supports a colour graph plotter as an output device
- You need to have some CP/M expertise to get it installed and going
- There is no way of joining points by a smoothed curve

### LIGHTPEN/ MOUSE ART

**£79.95 or £129.95 • Electric Studio • 0462 675666**

Obviously you are buying a piece of hardware — a light pen, or a mouse, that can be used with many PCW graphics programs, like DR Draw. In practice, its main use is with the software that comes with it, a very good picture drawing package. You can freehand draw, get airbrush effects, create polygons and circles, and move blocks of pixels. Great fun.

#### PLUSES • MINUSES

- Light pen hardware is a simple plug-in module
- Can use freehand pen or cursor keys for accuracy
- Menu selections are easy to understand
- Full range of functions for area filling, shading and spraying
- Blocks of pixels can be moved and copied
- You would need to know your way around CP/M to use the lightpen itself with other graphics programs
- Items on the screen are purely pixels, not distinct elements
- No positioning of items by numeric co-ordinates for accuracy.

### MASTER PANT

**£19.95 • Database Software • 0625 878888**

A WIMP environment graphics package (windows, icons, menus, and pointers) which will run with Kempston, AMM or Electric Studio mice. Usual facilities for drawing curved or straight lines, polygons, boxes, circles and ellipses, and a host of "fill" patterns. Undo function and eraser facility, plus the ability to zoom in on a part of the picture and make pixel-by-pixel changes.

#### PLUSES • MINUSES

- WIMP environment makes it easy to use
- Zoom function lets you fine-tune your pictures
- Good range of effects
- Undo and eraser facilities
- Text input can be tedious
- Can't move large blocks with the copy function

### MASTERSCAN

**£69.95 • Database Software • 0625 878888**

A device which clips on to your printer head and scans pictures, sending the digitised result to disc. You can then use the pictures in desktop publications or in other graphics packages, such as Master Paint. Very useful for newsletter production but the claims for Master Scan as a low-cost tax machine are grandiose — the quality of scanned text is poor if the text is anything less than headline size.

#### PLUSES • MINUSES

- Simple method of getting good digitised graphics
- Suitable for all desktop publishing programs
- Contrast control useful
- Quality of scanned text is bad — no good for taxes
- Problems with illustrations containing lots of grey

### POSTAFONT

**£9.95 • Independent User Group • 0242 224340**

It's easy to ring the changes with the five fonts provided on this poster program because you can have either solid or hollow characters in one of six patterns. Very good value for money but best for the occasional poster production.

#### PLUSES • MINUSES

- Its really good value for money
- You can freely mix fonts and styles
- The print commands are contained in a file which you have to create yourself.
- No warning if the poster is too big for the paper.

## GRAPHICS

You can use a graphics package to create and store diagrams and drawings on disc, to be amended, adjusted or printed out at will.

There are three main types of graphics package: art, technical drawing and graph plotting programs. In art packages the emphasis is on designs and pictures, with freehand drawing facilities, a selection of pretty text fonts and a variety of patterns to fill areas with. These are made much more effective and easier to use if you have a mouse.

Technical drawing packages concentrate on shapes, such as squares and polygons, lines and labels. Finally graph plotters will take your data and turn them into bar charts, pie charts and so on. 9512 owners will have to buy a dot matrix printer to do all this, of course.

### COMPLEMENT FONTS & BORDERS

**£12.50 • Dragonfly Designs**

Although it can be used with all the main DTP packages, this latest complement disc was designed to work alongside Step Press. The 11 fonts supplied on the disc show consistent good design and artistic flair and are easily loaded.

#### PLUSES • MINUSES

- The fonts provide a very professional finish.
- It is possible to rotate and reverse elements.
- Very user-friendly.
- Setting up borders tends to be difficult and time-consuming.

- Printed output could be better (but it is still above average).

### DR DRAW

**£49.95 • Digital Research • 0635 35304**

This is a drawing utility, which allows you to compose designs from circles, polygons, lines and a wide variety of shadings and stippling. It is very cumbersome to use unless you also have a light pen or a mouse, and overall not very friendly. Not recommended unless you're ready for some hard work.

#### PLUSES • MINUSES

- When pushed, it can produce very neat diagrams, even on the standard PCW printer
- Good, professional manual (although no mention of Amstrad specifics)
- You need CP/M expertise to get it installed and going
- Painfully slow screen handling
- Difficult to use by keyboard alone — you must buy a lightpen or mouse

### DR GRAPH

**£49.95 • Digital Research • 0635 35304**

A rather specialised package, specifically for presenting complex data in graph form. Can produce line graphs, bar charts, pie charts, scatter plots, text, and compositions of any mixture of these. Very flexible, and easily operated by menus, but really needs a graphics plotter to do it justice.

#### PLUSES • MINUSES

- Can read data from certain spreadsheet programs (e.g. SuperCalc)
- Extensive annotation of your designs and text placing is possible
- Good, professional manual (although no mention of Amstrad specifics)

### LIGHTNING BASIC

**£19.95 • CP Software • 0993 823496**

A very clever add-on to normal Basic which works on three levels. The first contains all the everyday commands, whilst the second and third levels are used for designing icons, characters and sprites. There is something in it for everyone, whether an experienced Basic programmer or a beginner. A useful all round graphics tool.

#### PLUSES • MINUSES

- Simple and easy to use
- Makes simple Basic programs look really professional
- Good tool to use
- Documentation can be unclear



## Aids to Desktop Publishing on the PCW range from an independent source.

The current range includes the following:

### COMPLEMENT

All discs are £12.50 inclusive except where stated and include user support.

### OUTLINE

### BORDERED

### ANIMAL 1

### GRIDLOT

Dragonfly Designs, 58, The Shrublands, HORSFORD, NR 10 3 EL.

A disc of Fonts and Borders, suitable for all our DTP programs. The material includes the Discs, the Fonts and the Borders, along with other styles. The Fonts include the one for sub-line, as well as three complementary Art Deco styles and one for the House of Commons. Also included on the disc is a Locomotive file of words and a Tip on Desktop Publishing.

For Novades International users only, this is a disc of templates with text, there are others listed out on the page. Various paper sizes are supported as well as disc labels, personal organisers and more.

Also only for Novades users, this disc has borders already positioned on the page, saving time and effort in page layout. Use the disc of the borders and from the material on Complement, the first is a new design including those bordering the advertisement.

A disc of first class wildlife artwork from the drawing by Michael Kay. There is not a cartoon merged, these beautiful pictures. For Novades, Novades and Desktop Publishing, I find borders by Novades, £5 per disc extra. I find a disc, but a transparent overlay to assist in page layout. For Novades, Novades only, and Novades Novades and one with full instructions. I find a disc, £5.00 per overlay.



## GET SMART



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# THE GOOD SOFTWARE FILE

GRAPHICS • GAMES

- Printed output is coarse draft quality
- Can only cope with simple graphics

## SIGNWRITER

£49.95 • Wight Scientific • 01 858 2699

Offers the widest range of features of any of the poster printing programs. Signwriter provides a range of 20 fonts, some of them very imaginative. Ideal for the regular poster producer.

### PLUSES • MINUSES

- You can redesign fonts and design your own symbols.
- A wide range of interesting fonts is supplied
- Not very user-friendly.
- Font design is slow.

## STOP PRESS

£49.99 • AMS • 0925 413501

Though touted as a DTP program, Stop Press is an excellent graphics package. Can present data in the form of graphs, pie charts etc., and has the usual range of facilities to draw and fill triangles, boxes and so on plus a very good 'zoom' option which lets you examine the effect of changes in great detail.

### PLUSES • MINUSES

- Good graph drawing facilities
- Can design your own area fill patterns
- Good range of clip art, which you can modify if you wish
- Can superimpose one image on another
- Works with AMX and Kempston mice
- Is also a good DTP package
- Undoing wrongly placed text is difficult

## AYE PLUS

£19.95 • CP Software • 099382 3463

The full title is 'All you ever wanted to know about graphics, the universe and everything on PCW 8256/8512... but were afraid to ask PLUS'. Phew. A wide range of little programs to do graphic things on the PCW like smooth scrolling, defining windows, moving sprites around. The programs are written in assembler, with the source code provided if you want to see how to program them for yourself and adapt the routines. Great for programmers.

### PLUSES • MINUSES

- Wide range of useful functions
- Can be used from BASIC, machine code, or other language
- The assembler source code is supplied
- Inexpensive
- Good manual
- CP don't mind you using their routines in programs you sell (within reason)
- A bit long-winded to use from BASIC
- No easy way of loading just the routines you want

## VIDEO DIGITISER

£99.95 • Electric Studio • 0462 675666

A black box which plugs onto the expansion port at the back of the PCW, into which you put a video camera or video recorder. It will then 'digitise' the picture it receives and display it on the screen. The result can be used as a normal graphic in any of the desktop publishing packages and can be edited, cut, pasted etc.

### PLUSES • MINUSES

- Automatically picks a good contrast level for the display
- Can store pictures for Light Pen or Mouse to work on later
- Can print out on a full A4 page
- Can't take simple TV signals - video only
- When used in a desktop publication, won't be as good as screened photographs

## GRAFPAD WITH POWERCAD

£149.50 • Graftsales • 0923 43942

A system allowing both freehand and technical design via a special pen. This works from a 'digitising tablet' which takes over the functions of the keyboard and fits into the expansion port at the back of the PCW. Wide range of features including object move, ability to define symbols for future use and sophisticated zoom feature for line adjustments. Its potential is enormous though at the price may be limited to specialist drawing office applications.

### PLUSES • MINUSES

- Combines best of freehand and technical drawing facilities
- Zoom feature allows drawing in of fine details
- Accurate
- Sophisticated, professional package
- Expensive - not really meant for the private user

## VIDI PCW

£99.95 • Rombo Productions • 0506 39046

A very similar package to the Electric Studio digitiser, not much to choose between the two. Rombo's works with the Fleet Street Editor, Electric Studio's with the Newsdesk International.

### PLUSES • MINUSES

- Text can be inserted from within the program
- 16 levels of shading
- Can print images to screen in defined order and time apart - great for presentations
- Unhelpful manual

## BRIAN CLOUGH'S FORTUNES

£17.95 • CDS (0302 21134) • All PCWs

A cross between Monopoly and Football Manager, combining board and PCW. Go for league and cup success - but keep the bank manager happy too!

### GRAPHICS

LASTING APPEAL

ADDICTIVENESS

VALUE VERDICT

## BRIDGE PLAYER 2000

£19.95 • CP Software (099382 3463) • All PCWs

A few of the bids it makes seem a little strange, but as bridge programs on computers go this is pretty good. Claims not to cheat, even though it does!

### GRAPHICS

LASTING APPEAL

STRENGTH OF PLAY

VALUE VERDICT

## CLOCK CHESS 88

£15.95 • CP Software (0993 823643) • All PCWs

One of the better PCW chess programs. You can alter the level of play by specifying a time limit. Capable of very strong play and the 3-D graphics are excellent.

### GRAPHICS

RANGE OF FEATURES

STRENGTH OF PLAY

VALUE VERDICT

## COLOSSUS CHESS 4.0

£15.95 • CDS Software (0302 21134) • All PCWs

A very strong chess game which manages to use time which you spend thinking to plan its strategy. Bags of features, including blindfold games.

### GRAPHICS

LASTING APPEAL

STRENGTH OF PLAY

VALUE VERDICT

## CYRUS II CHESS

£15.95 • Amsoft (0277 230222) • All PCWs

Chess game with a stunningly detailed 3-D display. The play is quite strong, with several handy features like allowing you to take back a move.

### GRAPHICS

LASTING APPEAL

STRENGTH OF PLAY

VALUE VERDICT

## DRAGHTS

£15.95 • CP Software (0993 82 3463) • All PCWs

A merciless opponent, this game is capable of very strong play. The playing board is shown in 3-D perspective but there is no clock to limit time on moves. You can set level of difficulty.

### GRAPHICS

RANGE OF FEATURES

STRENGTH OF PLAY

VALUE VERDICT

## FAIRLIGHT

£14.95 • The Edge (01-831 1801) • All PCWs

Fine 3-D graphic adventure with similar screen display to Batman. You explore a castle prison, battle with numerous enemies and solve puzzles.

### GRAPHICS

LASTING APPEAL

ADDICTIVENESS

VALUE VERDICT

## THE FOURTH PROTOCOL

£15.99 • Ariolasoft (01-386 3411) • All PCWs

An on drive adventure that works superbly well. Stop the Russians from setting off a nuclear device in the UK. Three excellent games on the one disc.

### ATMOSPHERE

CHALLENGE

INTERACTION

VALUE VERDICT

## • GAMES •

## ACADEMY (TAU CETI II)

£19.95 • CRL (01 533 2918) • All PCWs

The sequel to Tau Ceti. To qualify as an advanced skimmer pilot, you must complete successfully 20 missions. Blast enemy craft with your personally designed skimmer.

### GRAPHICS

LASTING APPEAL

ADDICTIVENESS

VALUE VERDICT

## BACKGAMMON

£15.95 • CP Software (099382 3463) • All PCWs

A fairly good implementation of the gambling board game. Playing speed is easily alterable and is totally unrelated to the games level of skill control.

### GRAPHICS

RANGE OF FEATURES

STRENGTH OF PLAY

DOCUMENTATION

## BATMAN

£14.95 • Ocean (061-832 6633) • 8000s only

3-D animated graphics as you guide Batman around Gotham City, looking for hidden parts of the Batcave. Good range of hazards, and even a tunnel!

### GRAPHICS

LASTING APPEAL

ADDICTIVENESS

VALUE VERDICT

## BLACKSTAR

£14.95 • CRL (01-533 2918) • All PCWs

A traditional text adventure with large playing area. You explore Caster Blackstar and its mysterious caverns in search of a power orb.

### ATMOSPHERE

CHALLENGE

INTERACTION

VALUE VERDICT

## BOUNDER

£13.95 • Gremlin (0742 753423) • 8000s only

A graphics bouncing-ball game. You have to direct the ball over a treacherous network of squares & hexagons. Persevere - or use the cheat mode!

### GRAPHICS

LASTING APPEAL

ADDICTIVENESS

VALUE VERDICT



# THE GOOD SOFTWARE FILE

## GAMES

### GNOME RANGER

£14.95 • Level 9 (0344 487597) • All PCs

You follow the adventures of Ingrid Bottomlow, the intrepid gnome, through a fairy tale landscape full of compelling puzzles. Humorous and rather quaint.

ATMOSPHERE CHALLENGE INTERACTION VALUE VERDICT

### GRAHAM GOOCH'S TESTCRICKET

£19.95 • Audiogenic (0734 303663) • All PCs

A good cricket match simulation with animated graphics. You can select your own teams, control the speed of bowling and striking. For cricket fans.

GRAPHICS LASTING APPEAL ADDICTIVENESS VALUE VERDICT

### GUILD OF THIEVES

£24.95 • Rainbird (01-240 8838) • All PCs

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ATMOSPHERE CHALLENGE INTERACTION VALUE VERDICT

## NEXT MONTH

The guide continues next month with the categories of WORDPROCESSORS, ACCOUNTS, PAYROLL, UTILITY and DTP. The month after that will cover DATABASES, EDUCATION and COMMUNICATIONS software, and the month after that it's back to this month's topics.

Our intention is to keep publishing the three parts of the guide in rotation,

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updating it each month to include all new products. If you would like to see other sections of the guide, back issues of 8000 Plus are available at £1.75 each.

Meanwhile, if you are aware of any significant omissions or errors in the File as published, please let us know. We intend to maintain it as THE authoritative guide to PCW software.

level scores 350 or so regularly, so you have to be on top form!

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£14.95 • Mandarin Software (0625 879920)

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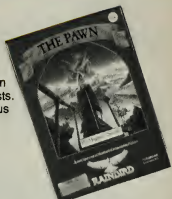
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# POSTSCRIPT

## A plenitude of pleas, placating and play plagiarised by a pleonastic Ed.

Outraged? Delighted? Confused? Whether it's to do with things PCW or just the real world, here's your chance to put your money where your mouth is, bare your fangs, and speak out. This month has a mixed bag: BASIC, boxing, book indexing, brickbats and bouquets for Mini Office. Write to: *PostScript*, 8000 Plus, 4 Queen St, Bath BA1 1EJ. Sorry, we can't reply personally – even with an aae – we're already desperately busy writing the next issue...

### Scaling heights

My problem is scale pitch in LocoScript 2: I agree with your remarks in issue 20 that Ms Gilmour has done a good job with the LocoScript 2 manual but why didn't someone tell her something about scale pitch. I don't claim to have read every word of the manual but I cannot find any explanation of scale pitch. Can you tell me what is it for? Can you define it? Is there any advantage that can be gained by using various pitches? I solved my problem by ignoring all but scale Pitch 10, but I am still curious and hopeful that it can be exploited.  
H E Weston  
Cheshunt

**8000 PLUS** Locomotive say that just as the ruler line at the top of the screen is marked out as the number of characters to help you judge margin and tab positions, the scale pitch determines the size of these characters on the page. So, if you have a margin set at 1 inch on a 9512 with Scale Pitch 10, it sits on character 10; if you then change the scale pitch to 12, your margin still starts the same place on the page but appears on the screen to have moved to character 12.

You rarely need worry about Scale Pitch; the only time you use it is when you're working in a document in a pitch different to the one you normally use. Otherwise, keep it set to your usual working

pitch size, ie. probably 12 on an 8000 and 10 on a 9512. If you want to know more, there's a feature in issue 3 of Locomotive's *'Script* newsletter, Mar 88.

### Nasty spell

I have tried to run the 800 Pus spell checker program but keep getting the following error:  
"error 68 in line 380 – abandoning spell checking"

I have tried the BASIC checker

with prints all the correct end codes, so what am I doing wrong? Can you please help.

T Cantwell  
Lodnon

**8000 PLUS** These BASIC error numbers are listed in Appendix II of the Amstrad or Locomotive *Mallard BASIC* manual. Error 68 is "Read past EOF" – ie. the program is trying to read data after the end of the file, perhaps because your data file is empty, or because your data file has some spurious end-of-file markers in it, as it might if it's a LocoScript file not converted into ASCII.

Check that your data file is not empty (by TYPEing it to the screen) and has been correctly made into a simple text ASCII from LocoScript.

### BASIC secrets

Please, please – do you or any of your readers know the 'secret code' that gains access to extra memory for BASIC. On my Amstrad 8256, I can at the most get about 34K – surely CP/M and BASIC don't take up the remaining 222K. Please someone tell me, because if I don't find out soon, it won't be long before the men in white coats come knocking at my door!

Adam Smith  
Westbury-On-Severn

**8000 PLUS** There's no way of extending BASIC's workspace –

the 34k is what is left over after BASIC has taken its 27k of the 61k TPA all CP/M programs have as their 'Transient Program Area'.

Don't worry about the men in white coats. They have been very good to me and Josephine.

### Mini Office Mailing

In your Mini Office mailmerge tutorial (8000 Plus, June 88) you said the space occupied by each slot for database items in a mailmerge is fixed.

In fact, as stated on page 69 of the manual, 'a value of zero causes the room allocated for the specified field in Page Edit, Preview and Printer to equal the actual field length for the current record'. I've tried this and it works; so you can print out letters of the 'You, Mr Taylor, have been selected out of all the people in St Amiga Rd to take part', etc.

Carol Warren  
Manchester

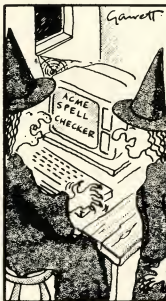
### Ansible censor

I thought your evaluation of Ansible Index (May 88, p 67) slightly grudging. Firstly, though the output is not a LocoScript document it is extremely easy to convert it to one by using the 'Insert Text'. Secondly, though it will not index summaries or general ideas it indexes topics very well; in fact that is one of its strong points.

It is easy to run and is bug free. I indexed a book of 100,000 words in twenty chapters, indexing took me more time than I had allowed for, but that was because the indexing was so easy that I got carried away. On my first attempt, when quarter way through, I already had over 500 entries. I decided for a start to omit names referred to only in passing and once only. On the second attempt, when about half way through, it occurred to me that 40 page references to Sir Robert Peel was pretty meaningless; possibly impressive but nobody would ever look them up.

So, with a little ingenuity, say on the Great Irish Famine, one got: potato, failure of potato, prices of potato, blight on potato, tests on, and so on.

To get the best results it was advisable to edit the text slightly and to try to ensure that a phrase which summed up a paragraph occurred in the first sentence, as good writing requires it should. It was also necessary to ensure that the date of an Act always accompanied mention of it. A Poor Law Act (1833) is very different



"IT'S THE MOST USEFUL PROGRAM I'VE GOT..."

from poor law act (1834), but the reader as well as the indexing program likes it spelt out.

A word about the detestable GREASE, the program they include which tells you how often you have used each word. The authors mention the poor chap who used 'fundamentally' seven times on ten pages. After each chapter I went through and weeded out all my own repetitions. My besetting sin was phrases like 'At the time' 'At the same time', 'After a time'.  
Des Keenan  
Wembley Park

I am glad to say that I have found one excellent exception to the general rule about unhelpful documentation, which you mentioned in the May issue. That is, the documentation which accompanies the Ansible Index Software, it is a shining example to all software houses and really does make a pleasant change.  
S R Dalton  
Leeds

### Say cheese

One of my hobbies is photography and I now have many hundreds of slides which I desperately need to catalogue, and then be able to sort out by various categories eg. mountains views with snow, native dwellings etc. for setting up a variety of slide shows.

I have read somewhere of some software specially programmed to input a number of bits of information about each slide (I seem to remember 100 variables were accepted) which can be used on an Amstrad 8256, and which also provides a short identification of each slide in a printout set up by listing a given set of parameters. Can you help me in locating such a program?

E J Holmes  
Stourbridge

**8000 PLUS** Sounds like any standard database would do nicely. *AtLast 2* allows you to define categories like those you specify which can be input with one keystroke. You can then sort the slides into these categories. However *Mini Office*, *Masterfile* et al would do fine too.

Otherwise you could try writing your own database in *Mallard BASIC* - see this month's *BASIC* tutorial.

### Wallchart ripoff

I have just bought issue 20 and went home in eager anticipation of using the Giant LocoScript

Wallchart.

But guess what? Another customer of the Asda Superstore in Brighton must be grinning to himself, as my magazine contained no chart!

Please find herewith the



"... AND YOU RECKON THAT'S ALL THAT WENT - THE 8000 PLUS WALL-CHART"

wrapper that promised the goodies. Please may I have the copy that I never received. If necessary (gulp, gulp) I will even pay for it!  
G H Weatherhall  
Brighton

**8000 PLUS** Sorry - we got the magazines back from the printers with the posters already attached and have no separate copies. We will however be generous and let you have a poster for £1.50 and will throw in a free issue 20 with it as well.

### Trouble with the NUM

In the December 1987 issue of **8000 PLUS** you suggested including the line *OPTION RUN* in a Basic program that required numerical data to be input, in order to disable the [STOP] key. This key can have a disastrous effect, it hit by mistake when a program is in full flow, the main problem being that open JETSAM data and index files will then be marked incompatible.

I find it best also to set the 'Num Lock' ([ALT] + [RELAY]) when using such programs, so that data can be entered from the numeric keypad. It ought to be possible to do this automatically from CP/M, by combining the SETKEYS and PROFILE.SUB utilities (see Alec Rae's article in the February 1988 issue) to set up and operate a suitable key to produce the same

effect as hitting [ALT] + [RELAY]. But as yet all my attempts to do so have been in vain. The trouble seems to be that this combination of keys is neither a control code, a character nor a string, so that none of the methods of redefining the keyboard on pages 108-111 of the (8000 series) manual works.

At present, I put reminders to set and reset the Num Lock on the screen at the beginning and end of programs that involve numerical data. But this seems a clumsy expedient. Can anyone suggest a more elegant solution?

Cyril Coffin  
New Malden

### I wouldn't be 81 again

I have been shown a letter in your current issue from a Mr Medcraft who is using an Amstrad at the age of 81. I am using an Amstrad and was 84 last November.

J F Maund  
Surrey

### More on BASIC

In the May issue, Mr Ford raises a number of points about BASIC

### Box on

I read with interest your article in the March issue on *LocoScript v Protekt*. There are a few things you mention which I cannot find in the manual, and which I cannot work out how to do. Firstly, you mentioned that it is possible to do 'simple graphics' - bar charts for example, or boxed text...

which I expect were of interest to many users as they all referred to points not explicit in the manual. Could I just add one or two points to some of the answers?

The explanation of using DEFUSR with a CALL is not quite correct. A DEFUSR and subsequent USR can be used as an alternative to a CALL. This has always appeared to me to be a more complicated way of doing things, and I have found CALL both simpler and more flexible. The message 'Using file A' was probably 'Drive is A'. For some reason the 8256 never does. I have no knowledge why this is, but it may well be that it doesn't work quite correctly with two drives present and it was simpler to write it out than amend it. Mr Ford's observation suggests that the message may occasionally appear on the 8512. I have an 8256 so cannot confirm or deny this.

The answer to the final query was not the simplest suggestion. Using LINE INPUT instead of INPUT accepts an initial space as a character. On this subject, a point was made recently to me that `a$=INPUT$(1)` is often

**8000 PLUS** To get vertical lines joined up in *LocoScript* (or *Protekt* etc.) select half line spacing (which is +LSS) in *Block* and make sure you put a blank line between each line of text.

Bar charts can be done using the various blobs that *LocoScript 2* has, and look

```
| Take boxed text for example. This is about the best |
| I have been able to achieve. I have used Extra + $ |
| to achieve the vertical lines, but they do not join |
| up. The result is the same using symbols (Alt + 77 |
| then 9). Am I missing something? Is there a better |
| way? |
```

How would you approach simple bar charts? This would be extremely useful if I could crack it.

Also, you mention the versatility of *LocoScript* for such tasks as writing newsletters. One of the facilities that does not seem to exist is the ability to write in columns. Columns make for much easier reading in newsletters. Is there some way of doing this, other than the tedious and not very satisfactory method of printing out twice?

Chris Davies  
Cleveland

even better if you define suitable grey boxes using *Locochar* - we published a tipoff on this in our February 1988 issue (issue 12).

It is possible to coax multi column printing out of *LocoScript* (see *TipOffs*, December 1987, issue 15) but it is a bit involved. For newsletters the easiest procedure is just to print out your text as one long column and paste it up in the traditional way for the printers (see *Case in Point* this month).

## POSTSCRIPT

much simpler than the INKEYS routine. Obvious, but judging by most published programs and the manual itself we all seem to have missed this point!

The £ and ¢ confusion can be sorted out by LPRINT CHR\$(27)~CHR\$(0) to obtain the USA character set CP/M (identical in all other respects).

Geoffrey Childs  
Winchcombe

### Papering over the Cracker

I recently had occasion to enter a list of examination candidates into a Cracker spreadsheet. The names were already in alphabetical order. However, some late candidates required entry and were therefore added to the end of the list and Cracker was instructed to place them in their relative positions.

The results were a disaster, as Cracker proceeded to throw areas of the list into a non-alphabetic sort, which unfortunately, was not at first noticed.

There is no indication in Cracker's manual that it is unable to sort names into proper alphabetic order, an essential requirement in educational fields, and numerous approaches to NewStar software have produced nothing other than a verbal acknowledgement that all was not well.

Charles Stewart  
Chesham

### More on Mini Office

To all readers who sent you letters on the difficulties they were experiencing with Mini Office, a thousand thanks. I thought it was my own lack of experience that was at fault, I was beginning to think I should give up the idea of using my 9512 for anything except word processing. The review in your magazine didn't help much either, it was an excellent buy, where else was one going to get so much for so little? It was the strength of that I bought it.

However, until someone produces a manual that makes sense, or the makers of the programme offer to iron out all the bugs, Mini Office will stay on the shelf. And I shall read your reviews on programs with the proverbial pinch of salt.

Arthur Titherington  
Oxon

I was frankly surprised by your correspondents (p77 in the May issue) who went to such great

**8000 PLUS** The only anomaly Cracker has with sorting is that shorter words get sorted after longer words, i.e. 'Bass' comes after 'Bassingthwaite' contrary to telephone book style. Quirky and possibly annoying, yes, but hardly a disaster.

### Pointing the index finger

I feel your reply to Joyce Francis in the May issue rather missed the point of her enquiry. The indexing programs you mention are all intended for indexing a text in the form of a computer file. Mrs Francis however, wants to index printed books and periodicals and I'm sure has no intention of transforming them all into Locoscript files first.

Without doubt the only adequate indexing program to fulfill her requirements is MACREX, available from Macrex Indexing Software, 36 Rochester Road, London NW1 5JJ (tel. 01-267-3793). It has innumerable ingenious features including automatic sorting and merging of page references and the possibility of hundreds of different printing layouts.

Christine Shuttleworth  
London

**8000 PLUS** I think you missed the point of our answer – perhaps we didn't explain ourselves too well. The first two programs we mentioned (the sorting programs

we printed in 'Listings' in issue 12, page 56) will sort a list of items into alphabetical order. So, you go through your books typing each item you want indexed with the page number into a Locoscript document, make an ASCII file, then use the sorter to produce an alphabetically arranged list. We used it to make our Year Index in issue 12, we shall use it again for our Two Year Index in issue 24, it's fast and it's free.

### Screen test

Compliments to your excellent magazine particularly this month's tip off for designing your own screens. It's brilliant, but how can I create and use screens actually within my BASIC programs and be able to call them back up onto the screen when ever I want them to appear. Please be super experts and be kind enough to pick your super brains for me.

Help me before I eat my BASIC manual. Or is there anyone you know can help me.

Craig Stevenson  
Basingstoke

**8000 PLUS** You could waste the best years of your life learning assembler, or get Lightning BASIC (£19.95) by CP Software (0993 82 3463). It gives you millions of useful things like the ability to save screens to disc and instantly recall them, full page screen dumps, graph and other drawing

functions etc.

We wouldn't advise eating your BASIC manual and certainly wouldn't tell you even if we did know anyone who could help you eat it.

### Cricket critic

I would be grateful for any information you can give me on the existence of Cricket statistics programs. The program should be able to handle individual scores, both batting, bowling and giving cumulative totals for selected statistics, ie a running total for the season as well as career totals.

Malcolm Ashton  
Bury

**8000 PLUS** None are available commercially as far as we know but no doubt some PCW owning scorer has whiled away the winter evenings writing one in BASIC for their club. Anyone out there help us?

### MOP again

I am desperate to solve this problem that I have with the 'Mini Office Professional'. Please, please help, or I have lost £29.95.

The problem is, I want to put total amounts from invoices received on a monthly basis into my database of which I want to keep a running total, ie Joe Bloggs, January £5, Joe Bloggs February £6, running total to February £11.

pains to tell us more about themselves than about the alleged shortcomings of Mini Office Professional. They displayed both an unfamiliarity with the use of CP/M environments, and surprising inability to digest some of the contents of a very short and simple book. There is no reason to

assume that such a software is automatically transferable to Drive M (and nowhere in the book is this suggested), and the problems with saving graphs etc. can only mean that the users have just not bothered to read the manual.

I respectfully suggest that his use of Mr Griggs' word "junk" is

actually pure bunk. He evidently expects for his twenty-five quid (though he could have reduced this to £24.95 by buying direct from 8000 Plus as I did!) a system so elaborate and sophisticated as to be utterly idiot-proof. Does he really imagine that the amount of software he is recklessly pumping into his Drive M is going to leave any room at all for his PCW 8256 (which I assume he uses since it is generally users of this model who assume that their M drive is a software dustbin) to do anything at all? Had he used the software properly, he would have discovered that even to load a document from disc completely cleans out the memory!

Now I know there are bugs, and that these are annoying. Particularly regrettable is the fact that in printing fully-justified text the printer doublestrikes the text word by word making it quite useless except for those who have a macabre propensity for staring at a printer for five minutes while it



"BETTER START THE CHRISTMAS CARDS NOW IF YOU'RE GOING TO USE HIGH QUALITY JUSTIFIED MICROPRINT..."

Can I make my database do this?

Solve this one and my yearly subscription will be in the post.  
**L R Thacker**  
**Midlothian**

## 8000 PLUS Your options are:

- i) Use your spreadsheet rather than your database. This saves calculations and totalling but means of course you can't use the names and addresses in mailsheets; or
- ii) Have fields set up for every month of the year (say [1] to [12]) and another as a 'formula' field [13], defined as [1]+[2]+...+[12]. Unused entries default to 0, so [13] will always show the total.

Remember to send your subscription money to Somerton and not to Bath.

## BASIC again

Denis Crowley's idea of documenting BASIC program GOSUB and GOTOs as REMarks (8000 Plus, issue 20) is clearly good for small programs but, as I am sure he will find sooner or later, it is neither workable nor all that is needed for long and/or big programs because:

- remarks occupy valuable memory space. As programs lengthen, the number of GOTOs and GOSUBs involved inevitably increases which would lead to correspondingly more remarks.

When space runs out, the first thing to go when 'crunching' a program

laboriously pumps out six lines of text - just don't use justified text! Likewise it is disappointing to find that enlarged letters can only be printed in draft quality (through the use of Bold for these make appearance rather better). It is a mistake, however, to assume that because the manual has been justifiably hammered in reviews it is simply not worth reading. Most of the 'problems' complained about are actually dealt with in the book. I for one, have been perfectly satisfied with my £24.95 (post-free tool) returns, and have not had the least difficulty preparing this letter with Mini Office Professional! **Roger Wibberley**  
**London**

**8000 PLUS** A book on Mini Office will be with us shortly - news next month. Looks like a good time to declare the Mini Office correspondence closed.

to fit is all the REMark statements. - after a program maintenance session, it is all too easy to forget or not have time to amend the remarks.

- there is no indication of where the routines are called from. When making changes, particularly to subroutine parameters, it is vitally important to trap all the calls to the affected code.

Having developed many large programs covering a diverse range of topics, my answers to the problem are:

1. Adopt a line numbering standard. For example, I use 3000-3999 for common general purpose subroutines. Hence, although there will obviously have been customisation to suit the individual circumstances, I know that whatever program I pick up, 3150, for instance, will be a screen clear and headings print whilst 3990 will set the viewport. Development speed is increased, the risk of error is minimised and the standard routines can be culled as needed from previous efforts in complete safety using the 'Merge' command.

2. Use RENUMBER sparingly and even then confine its effect to the area where it is needed - if necessary, do this by using DELETE to create two files, one containing the lines to be renumbered and the other those not. RENUMBER the former, then, having ensured that there is no conflict, MERGE the two back again. Remember that in Mallard Basic, unlike some other versions I could name, no memory space is saved by using low value line numbers.

3. Run a GOTO/GOSUB/RESUME line number analyser after all significant changes to produce fresh lists of all routines, the calls thereto and, most important of all, ensure that there are no jumps/calls to missing lines. A sample of its output is enclosed. No such analysis program was commercially available in this neck of the woods so I wrote my own. As Mr Crowley is liable to find likewise in his part of the Celtic empire, I should be only too pleased to let him have a copy in exchange for a donation to the First Air Ambulance Trust (Cornwall's pioneering helicopter ambulance service). **Malcolm Surl**  
**Bodmin**

## Letters of ProteXt

I was astounded to read in the May issue of 8000+ magazine that you consider 'printing labels is virtually impossible' using ProteXt. It is, on

the contrary, exceptionally easy.

The template file listed in the ProteXt manual (page MERGE 3-10) does the job for you and merely needs to be typed and printed. With the default configuration as ProteXt is supplied, the address label example in the manual works perfectly on the PCW printer. I have just tried it again myself to make sure.

**Mark Tilly**  
**Arnor**

Expert computer journalists such as yourselves are very fond of reminding us poor ignorant downtrodden users that the third law of computing is 'when all else fails, read the manual'. On page 66 of your May issue in the Good Software File you claim that a big minus of ProteXt is that 'printing labels is virtually impossible'.

RUBBISH! If only you had borrowed your Aunt Agatha's spectacles you would have noticed that on page Merge 3-10 section 6 Arnor have kindly provided a template for doing just that, addressing labels, either one or two across. Better still it's even in the index under 'Labels'.

If you don't like standard draft quality print just type >>> 27,69 and your addresses print out in

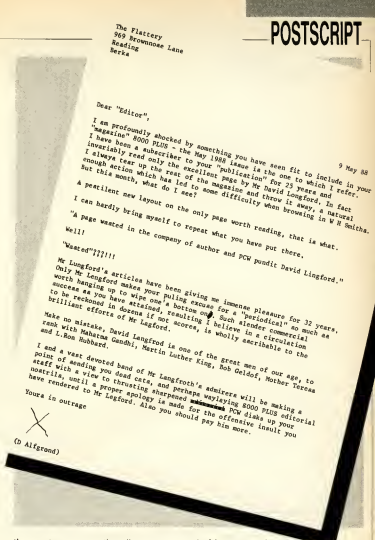
bold - near to letter quality and faster.

If you only use one-across labels, just delete the section IE to EI and if you want multiple copies of each address, use the REPEAT UNTIL command. Finally if you have taken Arnor's advice and made all your address records constant length by putting the S sign as an empty field marker, this will cause gaps in the printout. Remove these by using [FIND]! and replace with nothing.

**John Smart**  
**Hitchin**

**8000 PLUS** I'd like to make a comment, being the person who uses ProteXt for typing and LocoScript for labels. All the 8000 writers tried unsuccessfully to get the label side of ProteXt working for me, even with the manual's suggested templates etc. Maybe we had an old version. Using your advice, I will now try to print some labels using the latest ProteXt.

I still think LocoScript is easier for someone like me who has no programming experience for labels. On screen commands are far more straightforward - Louise Cockcroft, Secretary (poor person who has to type all the readers' letters and gets no credit!)



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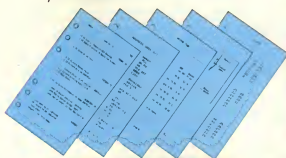


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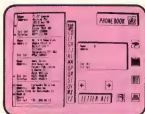


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### NOTEPAD



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### GRAPHICS



A graphics conversion program is provided enabling graphic images generated from within "The Desktop Publisher" (Database) to be read into the Notepad Option, which can then be printed onto DAATAfax paper.

A further conversion program is provided for Locoscript files enabling these also to be read into the Notepad.

### CALENDAR



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